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A National Newspaper for Every Branch of the Industry

Automotive Daily News

★CARS★ SHOP EQUIPMENT TRUCKS ★★AVIATION★★ PARTS ACCESSORIES ★TIRES★

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COMMERCIAL CAR SALES IMPROVING

New, Improved Chevrolet at Lower Prices to Be Announced Saturday

By CHRIS SINSABAUGH

DETROIT, Nov. 5.—The 1931 Chevrolet, at the lowest prices in the company's history, will be shown here on Saturday at a pre-view display for Detroiters only. The following Saturday the new models will be shown by the Chevrolet dealers throughout the country.

While there have been rumors that Chevrolet would announce its new models earlier than usual this time, the local public was not expecting this announcement so soon, so when President W. S. Knudsen himself gave out the news today it occasioned quite a sensation in the industry here.

Mr. Knudsen did not go into details of construction outside of stating that the new car will be considerably increased in size and improved in appearance and performance, despite a new level of prices which will bring the 1931 Chevrolet to the lowest range of prices at which this car ever has sold.

The move in announcing the new car in November comes nearly two months earlier than the customary date. Heretofore the annual new Chevrolet models were shown at or near the time of the New York show, in January.

First intimation that the announcement date would be moved

(Continued on Page 5)

GASOLINE TAX IN SIX MONTHS $230,600,455

Washington, Nov. 5.—The 48 states and the District of Columbia collected an average tax of 3.39 cents a gallon on 6,809,863,076 gallons of gasoline during the first six months of 1930, according to reports received and compiled by the Bureau of Public Roads of the U. S. Department of Agriculture. After deducting certain exemptions from the total assessed tax, the net tax on the sales of gasoline amounts to $230,600,455. Under the tax laws, certain special fees, amounting to

(Continued on Page 2)

HARRISON RADIATOR PLANS FULL-TIME OPERATION

Lockport, N. Y., Nov. 5.—The Harrison Radiator Corporation will resume full capacity operations late this week, according to David B. Mecorney, executive secretary, who has announced that the company will engage in the manufacture of a hot water automobile heater.

An entirely new department in the Walnut Street section of the plant here has been set aside and equipped for production of the new item.

D. M. MARTIN SWITCHED TO MID-WEST BY OAKLAND

Evansville, Ind., Nov. 5.—D. M. Martin, Indianapolis, formerly Oakland-Pontiac representative in the New England region, has been appointed district sales representative of the Oakland Motor Car Company in southern Indiana and Illinois and western Kentucky.

CORD FRONT DRIVE WINS 39 EUROPEAN PRIZES

Auburn, Ind., Nov. 5.—Cord front drive cars have won thirty-nine major prizes in Europe in the last six months, R. S. Wiley, export manager of Auburn, pointed out today.

All these prizes were won by standard models often in competition with custom built automobiles and cars of considerably higher price. The prizes were awarded for beauty and newness of design, distinctiveness, luxuriousness of appointments and general appearance of the car.

General Motors Boosting Its Share of Car Sales; Ford Percentage Is Off

NEW YORK, Nov. 5.—General Motors increased its percentage of the total new passenger car business done in the United States in September, while Ford's share declined from the preceding months of this year, according to the registration statistics.

General Motors in September registered 64,038 new cars in the domestic market, equivalent to 36.6 per cent. of the total business of the industry. This compared with 34.1 per cent. for General Motors in the first nine months of the current year, indicating that the September percentage was substantially higher than that in the first eight months of the year in the aggregate.

Ford, on the other hand, accounted for 65,955 cars, including the Lincoln, in September, this being equivalent to 38.6 per cent. of the total, as against 41.2 per cent. for the Ford company in the first nine months. This indicates, in direct contrast to the General Motors situation, that the Ford percentage in September was substantially lower than it had been in the earlier months of the year.

It is also noted in the registration

(Continued on Page 2)

SURVEYS IN FOUR CITIES REVEAL BETTER MARKET

Where Declines Have Occurred, They Have Been Only Normal and Are Offset by Upturn In Demand for Service Work

NEW YORK, Nov. 5.—Unmistakable signs of an upturn in public demand for commercial cars have made their appearance in various parts of the country, according to a current survey of the situation by representatives of Automotive Daily News. Where declines have taken place they have been no greater than the normal trend.

Service demands have increased with the coming of cold weather and there has been an upturn in demand for parts in most places.

There are possibilities in some places that sales of trucks in the last two months of this year will equal if not exceed those of the correponding period of 1929.

BALTIMORE, MD., Nov. 5.—An atmosphere of optimism, tinged with a conservative amount of adherence to previous trade conditions in the similar period last year, pervades the truck sales field here. In the majority the dealers are expecting a continuance of satisfactory business.

"However," says A. H. Bishop of the Autocar Sales Company, "the fact that December, January and February are quiet months in truck sales is no cause for alarm to the straight-thinking executive. It is but a regular occurrence in the year's business cycle. Around this time firms usually begin closing their books for the year, and inventories are lessened as much as possible. It is but natural that buying is affected.

"In my opinion the next three months are extremely fertile days for the accomplishment of real sales activity. At the Autocar organization we concentrate every effort upon building up and strengthening

(Continued on Page 2)

INDEPENDENT OIL MEN DISCUSS MARKETING

St. Louis, Mo., Nov. 5 (UTPS).—The Independent Oil Men of America, composed chiefly of small jobbers representing forty states, opened their annual convention at the Statler Hotel here on November 2, to discuss co-operation in marketing their products through the adoption of a national emblem.

The independents have devised a red hat for their gasoline and a red eagle for their filling stations. The association hopes, through uniform products, to obtain a greater percentage of the transient trade, having been heretofore handicapped by the lack of a national reputation.

E. H. Hilpp, Louisvile, Ky., national president, said the independent dealers would form plans for co-operation with the Independent Oil Producers' Association, having members in sixteen oil producing states, to oppose the importation of cheap foreign oils, principally from Mexico and South America.

C. Y. Hinchey, executive manager of the independent dealers, said his organization would probably ally itself with the independent producers in seeking an oil tariff.

Super-Service Stations Topic at N. T. D. A. Meeting

CHICAGO, Nov. 5.—**Lines were laid Tuesday for bringing the National Tire Dealers' Association convention to a climax of its activities for this year, when appointment was made of important committees which are due to report with their recommendations at a later session.**

President S. B. Harper announced the makeup of major committees, with the following men heading them: George Erlinger, New York, nominating; L. K. Beller of Brooklyn, resolutions; M. J. Barry of Baltimore, ways and means; L. A. Brown of New York, constitution and bylaws; Abe Goldstein of Atlanta, auditing.

Attendants at the convention got a surprise Wednesday morning at the arrival of Harvey S. Firestone, president of the Firestone Tire and Rubber Company, who addressed the afternoon session. Mr. Firestone was not on the convention program.

Although the convention proper closed tonight with the annual banquet, addressed by Samuel Woolner, Jr., president of Rubber Manufacturers' Association, many who have come here for meetings will remain over Thursday for what has been designated as United tire day, when George J. Burger, president of United Tire Stores Corporation, will be in the chair. This organization was formed a year ago at the time of the 1929 convention for purposes of giving independent dealers certain advantages through the corporation's volume of purchasing power. Mr. Burger will re-

(Continued on Page 5)

TODAY

Sparks from Detroit .....Page 2
Radio equipped cars boost sales for Dallas dealer .....Page 3
Editorial, "Psychology of Sales," Page 4
Wholesale news and views..Page 4
Calendar of coming events..Page 4
Engineering news .....Page 11

REFERENCE TABLES

Major specifications and mechanical details of commercial cars, Pages 8, 9, 10

Middle West Looking to Car Improvement to Aid Steel

YOUNGSTOWN, Nov. 5.—**Steel makers in this territory are closely watching developments in the automobile industry and sales branches in the larger cities throughout the country are checking business conditions in their respective territories.**

Leading producers here profess to see an improvement developing in the automobile industry, which is expected to prove beneficial for those steel companies manufacturing flat rolled products. At present the departments manufacturing electrically welded steel pipe are the most active in this district and such plants have proved a saving influence for the Middle Western steel industry generally, suporting collateral operations of such producers as the Youngstown Sheet and Tube Company, Republic Steel Corporation, National Tube, Carnegie Steel Company and others.

With fourth quarter contracts for primary steels closed, there is unlikely to be any price change of consequence yet this year. Some first quarter, 1931, inquiries are developing, but producers are somewhat hesitant to quote for extended forward deliveries, believing that market conditions will show more strength.

As the year end approaches, with steel consumers endeavoring to keep inventories down to bedrock, there are likely to be intermittent periods in demand and in operating schedules. Steel buying has changed materially recently. Production facilities and transportation have made quick shipments possible, with the result that consumers carry lower inventories.

In this area, the industry looks for a definite and firm pickup in the first quarter of the new year, though this change may not develop before February.

Commercial Car Sales Gaining In Baltimore, Dealers Report

(Continued from Page 1)

initial contacts with the key men governing the operation and purchase of motor truck fleets. We, and other dealers, can profit from a similar course, attempt to build in the prospect's mind a complete understanding of the superiority of a truck for his particular purpose. All thoughts of any so-termed depression is delegated to the waste basket.

The commercial car dealer's attitude in Baltimore is an outgrowth of the results of the first six months of 1930. It is interesting to note that truck sales in the entire state were on an even level with 1929. Sales recorded were 3,550 for the 1929 period, as against 3,519 deliveries in 1930. Despite the falling off of sales from July to date, truck men have refused to be alarmed, but unostentiously proceed to build contracts to recupe loss in deliveries, which amounted to 32 per cent. for the months of July to November. Deliveries in Baltimore for this period were 1,665, as against 2,460 of all makes in the same era in 1929.

Figures taken from the truck registrations show that present deliveries are 13.7 per cent. under 1929 deliveries. January to the middle of October of 1929 showed 6,010 trucks sold, as against 5,184 in the corresponding period of this year.

A close check reveals, however, that sales are in the increase. The following percentages are comparisons betwen 1929 and 1930 for the months named. July showed a 31 per cent. decrease, August 30 per cent. decrease (which month was by far the lowest point reached), September rose to 30 per cent. decrease and October traveled still further up the sales curve with but a 24 per cent. decrease in volume.

Contacts with a number of prominent dealers reveal many interesting individual viewpoints and conditions. John T. Ryan, assistant manager of the Brockway Motor Truck Company, brings to light that his company has increased sales by adopting a policy of pushing the lighter model truck. They are particularly pleased with a stroke of selling that cleaned out 90 per cent. of their used truck inventory last month and which now places them in an advantageous position with regard to future trades.

Somewhat the same view is held by E. A. Flinn of the White Company, who reports a decidedly satisfactory condition existing in the service department, though he is not inclined to laud the sales curve of new trucks. To offset the retardation in sales the White Company is operating a 24-hour service shop and enables owners to have their trucks overhauled at night and ready for service the following morning. The inventory of used trucks on hand is normal.

With less than a baker's dozen used trucks on hand and with sales of new trucks averaging close to last year, Jay Strouse, manager of General Motors Truck Company, finds the outlook for both present and future business to be somewhat cheerful.

Kansas City Truck Dealers Aided By Sales of Service and Parts

KANSAS CITY, Nov. 5. — Busy shops and heavy sales on parts have about balanced any falling off in sales of motor trucks in Kansas City during the so-called "business depression" of the last few months. Dealers generally agree that "sales and general conditions are better than we expected."

Repossessions have been only normal, except in one case where a factory branch here was compelled to take back several sold to a concern in another city. Conditions other than financial depression, however, figured in this repossession.

Trucking concerns here, on the whole, have been busy, and while most of them have resorted to repairs rather than replacement with new trucks, sales of new trucks have maintained a higher average than passenger cars. One concern reports an unusual feature in sales —that of business little below normal, with virtually all sales being for cash, with few trade-ins on the deals. Collections on time-payment deals are reported as better than ordinary by most companies.

The D. M. S.-Indiana Truck Company reports September sales as quiet, but with October sales good, shop work good and parts sales excellent.

W. L. Simms, manager of the International Harvester Company of America branch here, says October truck sales show a good gain over September, and while business is not "up to what we hoped it would be, we have no cause for complaint."

The Berryman-Reo Company, distributor of the Reo lines, reports sales as "fully as good as we expected under present conditions." Used trucks are selling well, but at a low figure. Used stocks are in good shape.

L. L. Morgan of Morgan-Marshall Motors, Republic distributor, says sales have been steady and on a better basis than in previous years. Shop work has been limited only by capacity.

C. G. Rowan, Diamond T branch manager, says conditions in the last few weeks have been "satisfactory, everything considered." Prospects, he says, indicate increased fall and winter sales. Used truck stocks low.

H. L. Hurst, assistant manager of the General Motors Truck Company branch here, says that while new sales are behind last year, collec-

(Continued on Page 6)

GASOLINE TAX IN SIX MONTHS $230,600,455

(Continued from Page 1)

$381,644, also were collected, making a total of $230,982,099.

Based on the ratio of the number of gallons taxed in the first six months of 1929 to that year's total, and on the figures for the first six months of 1930, the amount of gasoline likely to be taxed for the current year is estimated by the bureau at 15,400,000,000 gallons. Figuring the taxes on the same basis and allowing for changes in tax rate, the total for the calendar year 1930 is estimated at $515,000,000.

After deducting collection costs of $995,719 from the tax receipts for the first six months of 1930, the states distributed the remainder as follows: $157,390,770 for construction and maintenance of state roads and $44,894,169 for construction and maintenance of county roads; $14,868,154 to apply on state and county road bonds, and $12,833,287 for miscellaneous purposes, such as town and city streets, public schools, sea-wall protection of roads, inland waterways under state departments of commerce and navigation, and oyster conservation.

The highest tax per gallon paid was 6 cents; the lowest, 2 cents. The average tax of 3.39 cents a gallon was .17 of a cent more than the average of 3.22 for the calendar year 1929.

G. M. INCREASES ITS SHARE OF CAR SALES

(Continued from Page 1)

returns that the Ford decline in September from the corresponding month of last year was larger than the General Motors falling off, General Motors registrations of 64,038 compared with 103,082 in September, 1929, a loss of 37 per cent. Ford registrations of 65,955 in September were 41.9 per cent. below the corresponding month of 1929.

Both Ford and General Motors, however, accounted for larger percentages of the total business in September of this year than last, with Ford's 38.6 per cent. comparing with 36.9 per cent. a year ago, and General Motors' percentage of 36.6 this year comparing with 34 per cent. in 1929.

The General Motors decline in the first nine months from last year was greater than the Ford falling off, due to the fact that Ford sales in the first half of the year held even with the corresponding period of last year.

Ford registered 940,410 cars in the domestic market in the nine months of this year, as against 1,089,969 a year ago, a drop of 13.7 per cent., while General Motors sales this year were 778,828, as against 1,065,902 a year ago, a drop of 27 per cent.

It is notable from the accompanying tables that General Motors sales in September of this year were only 3 per cent. short of the Ford total, while in the corresponding month of last year they were 8 per cent. below Ford.

On the other hand, in the first nine months of this year, General Motors registrations were only 83 per cent. of the Ford total, while in the corresponding period of last year, the G. M. total was 98 per cent. of the Ford figure. The difference in this case, of course, comes from the fact that Ford sales have held up much better during the nine months period this year than the General Motors business.

Following is the retail sales record of General Motors and Ford, including Lincoln, in the United States in September, as compared with the corresponding month of last year:—

		% of
	1930	Total
Ford	65,955	38.6
G. M.	64,038	36.6
	1929	
Ford	112,997	36.9
G. M.	103,082	34.0

Following is the record of the individual cars, Ford and Chevrolet, for September, as compared with last year:—

		% of
	1930	Total
Ford	65,578	37.4
Chevrolet	39,023	22.3
	1929	
Ford	112,451	37.0
Chevrolet	61,005	20.0

Following are the records for the first nine months of this year, as compared with the corresponding period of last year:—

		% of
	1930	Total
Ford (with Lincoln)	940,410	41.2
G. M.	778,828	34.1
Ford	936,952	41.0
Chevrolet	533,240	23.3
	1929	
Ford-Lincoln	1,089,969	33.2
G. M.	1,065,902	32.5
Ford	1,085,028	33.0
Chevrolet	650,354	19.9

APEX MFG. CO. BOOSTS PRODUCTION SCHEDULES

Syracuse, N. Y., Nov. 5.—Production schedules have been stepped up to close to capacity at the plant of the Apex Manufacturing Company, Inc., manufacturer of metal window and motor car ventilators, according to Charles F. Stanton, an executive officer of the concern, who sees a return to normalcy in general business after the turn of the year.

SPARKS from DETROIT

Safety Glass

Nash Move Stirs Detroit

Camera Eye of Croswell

Chris Sinsabaugh—Detroit Editor

ALL automobiles operating in Great Britain after March 1, 1931, must be fitted with safety glass, the government having decided to make ordinary glass illegal. That's the news carried by cable to Detroit and the proposed action is being discussed here in car manufacturing circles. The consensus seems to favor similar compulsory action on this side of the Atlantic.

Intelligent educational efforts on the part of manufacturers of safety glass have made a large part of the industry safety-glass conscious and the past year has won many converts to the cause. More than twenty car making concerns are either furnishing this type of protection against injuries in automobile accidents or giving it as optional equipment. Some use safety glass, not only in the windshields, but throughout the body, while there are others fitting it only in the windshields. Bus companies, too, are taking it up and in New York and Massachusetts there is legislation compelling taxicabs to use it. The statement is made here that more than half the 1930 cars utilize this shatterproof glass.

* * *

THAT Great Britain should have beaten this country to it in making the use of safety glass compulsory is regretted by those who have been striving for a year or so past to get concerted action on the part of the industry to bring about the general adoption of this accident preventive. I recall that the motor maintenance committee of the National Conference on Street and Highway Safety gave the matter most serious consideration last winter. A sub-committee was appointed and it was planned to have a recommendation adopted, asking car manufacturers to equip their cars with safety glass. Somehow or other this resolution never came through the works, more's the pity. An indorsement of this sort would have helped.

* * *

DETROIT is discussing the bold change in policy of the Nash company in advertising delivered prices instead of f. o. b. factory. While I would not want to predict that others will follow this example this year or the early part of next, still, I am safe in saying that the factories will keep close watch on the Nash effort.

One sales executive told me he thought it was one of the most progressive steps taken in the last year or so. Another questioned dealer acceptance and a third felt that maybe in the minds of the buying public the Nash models might be put in a higher priced class because prospects would not differentiate between "delivered" and "f. o. b. factory." However, Nash, if it keeps up its bold advertising of this radical policy, should educate the public on this point, it is claimed.

Hudson tried something of this sort several years ago with its a. y. d. (at your door), but it is said there was dealer opposition and it was discovered that the public apparently did not differentiate between the two systems of price advertising.

Times may have changed, though, and it may be that Nash is pioneering a movement that will change advertising methods.

* * *

NEW YORK is proud indeed of its cop with the camera eye, the bluecoat stationed at the Queensboro Bridge, who has made a record in recovering stolen cars because of his wonderful faculty for memorizing tag numbers of automobiles reported as among the missing.

Out here we are pointing with pride to a youthful prodigy in Croswell, Mich., a 13-year-old schoolboy, Max Haas, who has made it his hobby to remember tag numbers. Put to a test recently, he gave correctly the numbers of 275 cars owned in the town and also remembered the names of the owners.

Max used to have difficulty with his arithmetic, particularly long figures, and five years ago his teacher suggested that this failing could be conquered by training his mind to remember automobile license numbers. The hunch proved a good one and Max is now one of the leaders in his arithmetic class. He is ambitious to make it 500 car numbers memorized next year.

RADIO EQUIPPED CARS BOOST SALES FOR THIS DEALER

Cadillac-La Salle Concern Tells Advantages Of His Idea

DALLAS, Tex., Nov. 5 (UTPS).—Here in Texas, where the boys try various stunts to increase the sales of automobiles, there is a company that has added music to the sales songs.

Whether or not the sales manager ever studied the lines of Shakespeare about a man having music in his soul is irrelevent, but the Prather Cadillac Company at Dallas has added to its sales of new cars considerably by having their demonstrators equipped with radios.

This company handles the Cadillac and the La Salle. The manager of retail sales is D. P. Wilson, and the sales manager of the parts department is E. E. Giles. They work in close co-operation on sales. The radio equipment is handled by the parts department. The company has experimented with radio equipment for the past two years.

According to Mr. Giles, the company was fortunate in getting a man who knew not only radios but also knew automobiles, and all the installations for the last year have been highly satisfactory.

The advantages of the radio-equipment in selling new cars are several, Mr. Wilson says. When a new car is sold and the customer drives it, that in itself is an advertisement for the company. This car will attract a great deal more attention if it is equipped with a radio and a musical program is being received as the car passes down the street, says Mr. Wilson.

The radio is a big help in making a sale. According to the sales manager when a salesman attempts to demonstrate a car to a prospect the prospect was sometimes so indifferent that he would even refuse to get into the car for a trial ride. Some of these same prospects only a few days later would get into a radio equipped car for a demonstration just because the salesman had the radio tuned in on a good program. During the demonstration they would get interested in the car and would buy a new car equipped with a radio. After several experiences of this kind the Prather Cadillac Campany had all its demonstration cars equipped with radios.

Since using demonstrators that were equipped with radios the sales of the company have been good in spite of rather adverse business conditions. The company in addition to its radio equipped demonstrators relies upon both newspaper and direct by mail advertising to get business and prospects.

The sales manager says it would be rather difficult to determine the exact advantage of the radios in dollars to the sales of the company, but he is confident that of the last 100 cars sold by the company the radios were responsible for at least twelve of the sales.

SMITH MOTORS OPENS RETAIL SALES BRANCH

Montreal, Nov. 5.—Smith Retail Motors, Ltd., is announced by J. E. Smith, president of J. E. Smith Motors, Ltd., 1626 St. Catherine St., Quebec distributor of Graham Paige, as new dealer. The branch will be in charge of L. H. Meyers. Mr. Smith will devote his time to wholesale matters and to supervision of Graham Paige dealers and service stations throughout the province.

MASSACHUSETTS MOTOR MOVES DEPARTMENT

Boston, Mass., Nov. 5.—The Massachusetts Motor Car Company, distributor of Dodge Brothers cars in Eastern Massachusetts, moved truck, service and parts departments to a new building at 69 North Beacon St., Allston. In the new location will be provided superservice, with splendid parking facilities for the 20,000 Dodge car owners in this territory.

Co-operate for Service

Get Your Automobile Ready for Winter Driving

Renew your car for Winter driving. The hardest season of the year, on your car, is near at hand. Make the old bus run and look like new. Firms that can do the job are advertising in this ad. Have one of these specialists put your car in shape.

PHONE TODAY FOR PRICES

Expert Repairing on all Make of Cars
WATSON SHALLCROSS, INC.
Dodge-Plymouth Dealer
21st and Federal Sts.
1721 Haddon Ave., Camden

H. R. NICHOLSON, INC.
Chevrolet Sales and Service
Expert Mechanics
White Horse Pike, Stratford & Clementon

GENERAL REPAIR WORK
and Battery Charging
TANEY AUTO SUPPLY CO.
3002 Westfield Ave. Camden 484

AUTHORIZED FORD AND LINCOLN SERVICE
HADDON MOTOR CO.
White Horse Pike and Haddon Ave.

GENERAL REPAIRING ON TRUCKS AND CARS
HENRY G. M. C. TRUCKS, INC.
739 Wright Ave., Camden.

Battery Service and Electrical Work
B & H ELECTRIC CO.
1211 Haddon Ave., Camden.
Phone Camden 6889

General Repairing, Radiator and Battery Service
L. L. Schroedel, Authorized Ford Dealer
2201 Federal St., Camden, N. J.

WE are prepared with spec. equip., spec. tools and factory trained mechanics. Call for estimates for any kind of repairs. Kloidt Motors, Oldsmobile Dealers, 600 Haddon, Collingswood. Ph. 42-W.

NEW JERSEY AUTO AND SUPPLY CO.
Buick Service
General Repairing
Opposite P. R. R. Ferry, Camden

WASHING, Polishing, Simonizing Lubrication, Mechanical Repairs. Cleanest shop in S. Jersey. Cramer & Myers, Inc., Bridge Blvd. at Federal, opp. Sears Roebuck, Camden. Phone 3170.

AUDUBON TIRE SERVICE
206 White Horse Pike, Audubon
Repairing and Vulcanizing — Standard Make Tires

CHEVROLET repairing by the best mechanics in S. Jersey. We guarantee our work 100%. Give us a trial. Gloucester Motor Sales, 410 Jersey Ave., Gloucester.

AUTOMOBILE painting, body and metal work, lettering, restriping, polishing, Simonizing, welding, radiator repairs. Camden Auto Painting Co., 32 White Horse Pike, Camden. Bell phone 4288. Satisfaction guaranteed.

First Class Body and Fender Work
RENT A CAR GARAGE
225 ARCH ST., CAMDEN
PHONES 764 AND 4325

Battery Starter, Generator Works and Auto Repairs
A. K. GARAGE AND SERVICE
612 White Horse Pike, Oaklyn
Phone Collingswood 3057

Changing of the Transmission and Differential, Washing Free
SHINN'S AUTO LAUNDRY
909 Federal St.
Phone 54

CAMDEN BRIDGE GARAGE
Washing, Polishing, Simonizing, Lubrication, Mechanical Repairs
Bridge Plaza — Phone Camden 2100

SIMONIZING, General Repairing on all make cars, battery and ignition service. Jas. Conley, Bridgeton Pike, Mullica Hill. Phone 20.

DAVIS BRAKE CO.
Cylinder grinding, piston rings and wrist pins fitted. Cylinder grinding in or out of chassis. Flywheel rebanding. 1125 Kaighn Ave. Camden 3352.

GENERAL REPAIRING
Ignition and Battery Service
INGRAM MOTOR SALES
1400 Haddon Ave., Camden
Phone 686

CHEVROLET OWNERS—Let us inspect your car and put it in shape for good dependable driving for the winter. Expert Mechanics and Genuine Chevrolet Parts. Get our price first. Thomas Dolly & Sons, Chevrolet Dealer, Moorestown, N. J.

GENERAL Repairing on Ford Cars. Nelson & Sheetz Motors, A. S. Roache, Salesmanager, Haddon and Woodland Aves., Haddonfield. Phone 2891.

B & B Service, 517 N. 7th St. Phone 7349-W.—General machine and die work, accessories, general repairing on all make cars, battery and ignition service.

TIRES and Batteries on Credit—$1 a week. Low prices on best brands. 1 yr. guar. on batteries. Tires insured against all road hazards. Barretta, 560 Carman, Camden. Phone 7348.

CALL Camden 4722. Reliable Auto Radiator Co.—We specialize in cleaning clog radiators. Body work and auto painting. 1125-27 Kaighn Ave.

Call JOHNNY'S for dependable Dodge service. 1417 Sheridan St., Camden. Phone 8588.

PROTECT your car against freezing. Alcohol & Everready Prestone, Distilled Glycerine.
ARNOLD'S SERVICE STATION
8th & Market Sts., Camden. Ph. 3887

MOTOR OVERHAULING
and Rear Wheel Wheel Aligning
L. SCHIMPF
25th & River Ave., Camden. Phone 2468

NEW Jersey Auto Radiator Repairing Co.—"Service is Our Motto." Radiator repairing, body and fender welding. All work guaranteed. 1005 Kaighn Ave. Phone 7293.

GENERAL repairing on Marmons & other make of cars. Battery service & greasing. Marmon Auto Service, Crescent Blvd. & Myrtle Ave., Camden. Ph. 1451.

CO-OPERATING for winter servicing of automobiles, several car dealers in Camden, N. J., joined with automotive repair men in a classified display. The ad. stressed getting the automobile ready for winter driving. New car dealers taking part follow: Watson Shallcross, Inc., Dodge-Plymouth; H. R. Nicholson, Chevrolet; Haddon Motor Company, Ford-Lincoln; L. L. Schroedel, Ford; Kloidt Motors, Oldsmobile, and Thomas Dolly & Sons, Chevrolet

Dealer Activities

MILLER-SESSLER, INC., TO MOVE IN CHICAGO

Chicago, Nov. 5.—Miller-Sessler, Inc., Ford dealer, now located at 2228 North Cicero Ave., will move shortly into new quarters near by, at 4830 Diversey Parkway.

FOIL MOTOR COMPANY ADDS CHRYSLER CARS

Salisbury, N. C., Nov. 5.—The Foil Motor Company, distributor of the Nash and Packard automobiles in this section, has announced that it will sell Chrysler cars.

PIEDMONT CHEVROLET CO. TO BUILD GARAGE

Mebane, N. C., Nov. 5.—The Piedmont Chevrolet Company has purchased three lots on No. 10 Highway, within this town, and will erect a garage building on the property.

UPDYKE COMPANY OBSERVES FORD ANNIVERSARY WEEK

Indianapolis, Ind., Nov. 5.—Cord anniversary week is being observed here by the Updyke Auto Company with a special showing of Duesenberg, Cord and Auburn automobiles.

RUSZNAK MOTOR TO HANDLE FORD LINE

St. Louis, Mo., Nov. 5 (UTPS).—The Rusznak Motor Company, recently organized by Louis Rusznak, has taken over the Beck & Hopper Motor Company, 6816 West Florrisant. The company will handle Ford automobiles.

LASSER MOTOR OPENS NEW FORD DEALERSHIP

Newark, N. J., Nov. 5.—The Lasser Motor Corporation, new Ford [illegible] for downtown Newark, has opened at 999 Broad St., formerly occupied by the Morgan Motor Car Company. Twenty-four-hour service will be inaugurated. An area in excess of 18,000 square feet is devoted to the service department alone. The entire area of the building is 22,000 square feet.

DILLON MOTOR TAKES ON NASH AUTOMOBILES

Madison, Wis., Nov. 5.—The Dillon Motor Company has taken over the Nash line in this city. The concern for the past year and a half handled the Hupmobile line, which has been taken over by George D. Keating, Inc.

NEW NASH DEALER NAMED AT TORONTO

Toronto, Ont., Nov. 5 (UTPS).—Brown & Percy Motors, Ltd., 2187-2193 West Bloor St., has been appointed Nash dealer.

Dealers' Association Uses Slogans to Good Advantage

WICHITA, KAN., Nov. 5.—"Your car will be better serviced by the dealer who sells that car," is the slogan adopted by the Wichita Automobile Dealers' Association in a campaign to show owners of cars that haphazard servicing is detrimental to their machines, as compared with regular servicing at a shop where the mechanics are thoroughly familiar with the requirements of the car.

"A good many car owners make a practice of having their cars serviced here, there and everywhere," said Harry Ridings of the Ridings Baldwin Motor Company. "They do not realize that only the dealer who sells the car can possibly be a specialist in its service.

"The dealer is a specialist. He knows his automobile from top to bottom as no stranger to it ever can know it. He doesn't pretend to know all other makes of cars, as that is impossible, yet that is what hundreds of small shops are claiming to do. If the big service departments of our agencies cannot know all makes of cars, what chance has the small garage with only one or two mechanics?

"Another advantage the dealer has is that his factory continually is giving him new slants on service. Bulletins are constantly coming in carrying information on changes which give the mechanics in the dealer's shop every bit of working knowledge of their machines. This knowledge can only be obtained by the non-dealer mechanics through experiment—and experiment can only be made at the cost of the automobile owner.

"This service slogan, 'Your car will be better serviced by the dealer who sells it,' should affect the owners of low-priced cars more than the owners of high-priced cars. Most costly cars are serviced by their own dealers, but cars of the $1,000 class quite often are passed around in haphazard fashion.

"It is the preventive service—the service which prevents breakdowns instead of merely fixing them—that we want to get to the public."

50 MARMON DISTRIBUTORS HEAR PROGRAM FOR 1931; SEE UPTURN IN BUSINESS

Indianapolis, Ind., Nov. 5.—Definite evidence of pre-depression business and industrial activity was shown when more than fifty Marmon distributors and dealers from Middle Western territory and a representative group of prominent local business men were called together here for a first glimpse of the Marmon program for 1931.

Officers of the company were hosts at a luncheon, where brief talks were made by G. M. Williams, Marmon president; George C. Tenney, general sales director, and H. L. Peterson, Marmon distributor in Philadelphia, Pa. Immediately after the meeting a driveaway of more than fifty cars was held in honor of Mr. Williams, whose efforts and activity have been chiefly instrumental in the success of the Marmon program, both present and future.

Mr. Tenney, in presenting the president, announced that October business would show an increase of 25 per cent. over October of last year, this being the second consecutive month in which Marmon shipments have shown an increase over corresponding months of last year.

R. S. EVANS OF JACKSONVILLE OPENS NEW QUARTERS

Jacksonville, Fla., Nov. 5.—R. S. Evans announces the opening of quarters at Ocean and Ashley Streets here, formerly occupied by the E. C. Williamson Motor Company.

Program Is Completed For A. P. I. Meeting

New York, Nov. 5.—Official opening of the eleventh annual meeting of the American Petroleum Institute, to be held in the Stevens Hotel, Chicago, November 10 to 13, is scheduled on the final program for Tuesday, November 11, at 2.30 p. m. About 4,000 oil men, most of them members of the organization, are expected to participate in the seventy meetings to be held.

E. B. Reeser, Barnsdall Corporation, Tulsa, Okla., president of the institute for the past two years, will deliver the president's address. Other speakers will be Philip R. Clarke, president, Central Trust Company of Illinois, whose subject is "Corporate Financial Stability," and Col. William J. Donovan, former assistant attorney general of the United States, who will discuss "The Anti-Trust Laws." The report of the board of councilors will be received and directors will be elected at this opening meeting, which is a general session.

Wednesday, November 12, will be devoted to group sessions of the institute's divisions of production, refining and marketing. On Wednesday the equivalent of a general session will be held to discuss unit operation. This session will be featured by talks by Dr. George Otis Smith, director of the United States Geological Survey, and Judge C. B. Ames of the Texas Company. Divisional group sessions will be resumed the morning of Thursday, November 13. The afternoon will be given over to divisional business sessions.

The annual meeting will close Thursday evening, November 13, with the annual dinner, served at 8 p. m., in the grand ball room.

The program of the group sessions follows:—

Wednesday, November 12

DRILLING, PRODUCTION AND PIPE LINE TRANSPORTATION

J. R. McWilliams, Skelly Oil Company, presiding.

Selection of Oil Well Casing Based on California Practice—J. R. Gignoux, Shell Oil Company.

Improvements in Production Practice—W. W. Scott, Humble Oil and Refining Company.

Development of Water Supply and Treating Methods in a Modern Oil Field—William K. Whiteford, Barnsdall Oil Company.

The Mechanics of Oil Well Pumping—H. E. Dralle, Westinghouse Electric and Manufacturing Company.

Unit Operation—T. E. Swigart, Shell Oil Company, presiding.

Land and Lease Aspects of Unit Operation—John P. West, Prairie Oil and Gas Company. (The mid-continent sub-committees on drilling and production practice, co-operating.)

Santa Fe Springs (California); a Comparison Between Competitive and Unit Operation—Martin Van Couvering, consulting engineer, Los Angeles, Cal. (The California district sub-committees on drilling and production practice, co-operating.)

Unit Operation in the Van (Texas) Pool—R. B. Kelly, Pure Oil Company. (The Southwestern district sub-committees on drilling and production practice, co-operating.)

E. B. Reeser, Barnsdall Oil Company, presiding.

Address — George Otis Smith, United States Geological Survey.

Engineering and Economic Phases of Unit Operation—T. E. Swigart, Shell Oil Company.

What's the Matter With the Petroleum Industry?—C. B. Ames, the Texas Company.

REFINERY ENGINEERING

E. W. Isom, Sinclair Refining Company, presiding.

Determination of Evaporation Losses—G. W. Chenicek and W. D. Whitman, Standard Oil Company of Indiana. Discussion by William Mendins, Sinclair Refining Company.

Protecting Tankers by Flue Gas—H. H. Hall, Standard Oil Company of California. Discussion by J. B.

(Continued on Page 6)

Automotive Daily News

"Of, By and For the Entire Automotive Industry"

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Psychology of Sales

WE had the pleasure recently of talking to an automobile dealer who has scored a definite success as a merchant and has done it by means of sales of used cars.

"By the time I had been in the automobile business three months I realized that I was going to stand or fall by the job that I did in getting rid of used cars," this merchant told us. "The new car line that I handle has a good reputation in my community and sells well, but to sell a new car it is practically always necessary to take in a used one. When I took stock of my first three months' operations, I found that my used car operations had wiped out what I thought was going to be a nice profit on new sales.

"Well, I sat down to find a remedy for that condition. It seemed to me first of all that my job was to create interest in my used car stock; to get people to come into the sales room to look over what we had to offer. Then I figured if you were going to create interest in this used merchandise, the first thing was to make the stuff you were offering something that was calculated to arouse interest and hold it after the customers had seen the goods.

"I began at the foundation. Every used car taken in trade was given an overhaul. Every used car was put in the best condition that was possible. The interior was cleaned, the engine compartment was cleaned, the running gear was cleaned up, so that the used car made the best possible showing. When it needed it, a coat of paint was slapped on. If I do say it myself, the used cars that we sell look 100 per cent. And they are 100 per cent. mechanically insofar as their general condition allows.

"With a foundation of honest, good looking merchandise to offer, the next job was to create a desire for it in the minds of possible customers. I found that the best way of doing this was through advertised sales. Newspaper advertising has helped, direct mail appeals to a selected list have brought in buyers and billboard advertising, some of it on the side of trucks running around the town, has proved valuable.

"In all our publicity the quality of the merchandise has been emphasized. In some sales I have actually underpriced certain items to attract attention and bring people into the shop. Once you get customers into your place, you have the chance to sell them something other than the item that actually has caught their fancy.

"In staging sales the dealer has got to learn just what he can spend in promotion and still show a profit. Our large experience has permitted us to learn exactly how much we can spend on advertising, how much we can underprice a given number of items to attract attention and still break even or better. The success of sales rests on careful administration in the dealer establishment. If the dealer doesn't know exactly what he is doing he can lose a lot of money."

This is an interesting slant on the used car problem. Our informant certainly scores an important point when he says that sales must be based on positive knowledge if they are to be profitable. It is no trick to mark down merchandise to a point where a sale is certain, but it is a definite problem needing careful working out, to conduct sales that will attract deserved patronage and yet yield a profit for the merchant.

AS we write this a trifle less than two months remain before the national automobile shows open their doors to the public. Much depends on the success of the shows this year. Not only the automobile industry, but business in general is banking heavily on a revival of buying in the automotive field. More than ever before every person connected with the automotive industry must bring all his strength to bear to make the shows an outstanding success.

News In The Jobber Field

ETHICAL SELLING OF TIRE FACTS IS USED BY DEALER

Los Angeles Firm Has Educational Meetings For Staff

LOS ANGELES, Nov. 5.—Ethical selling of tire facts in connection with merchandising of United States tires, a factor that will insure the confidence and good-will of its clientele, is provided by Guasti-Giulli, Inc., by the instruction program instiuted for its sales and service staffs.

Intelligent presentation of the various features of the United States tire is assured by the organization's educational meetings, held regularly under the direction of A. B. Chapman, Guasti-Giulli sales manager.

The meetings, held weekly, are devoted on Thursday to the service men and on Mondays to the tire sales force. Once each month the managers of the various Guasti-Giulli, Inc., super service stations gather for a meeting with the head office executives.

"It is our belief that an intelligent understanding of the United States tire's merits on the part of sales and service men is the best means of helping the motoring public with their problems," said Mr. Chapman.

TEXAS JOBBERS PLAN FOR FUTURE AT FALL GROUP CONFERENCE

Dallas, Tex., Nov. 5 (UTPS).—The regular fall meeting of the Texas Automotive Jobbers Association was held in Dallas a few days ago.

Business conditions and plans for the future featured the discussion at the conference.

Despite the "depression," the jobbers reported that sales and collections are holding up well in this section of the country. The business for the first ten months of the year was not as great as for the same period in 1929, but expenses have been curtailed to a certain extent and jobbers are not going to be in the red at the end of the year.

Credit lines have been restricted somewhat, it was said, due to the general business situation. At the same time the cash trade was inclined to higher levels.

The jobbers said the outlook for the remainder of the year is fair. There is no inclination on the part of the jobbers to buy heavily right now. They are reducing stocks for the inventory period.

Sam Suravitz, president, presided at the meeting.

ALBANY CONCERN TO DISTRIBUTE WHEELS, RIMS, DRUMS, PARTS

Albany, N. Y., Nov. 5.—The Albany Motor Specialty Corporation has been selected as distributor for rims, wheels, drums and parts.

It will act as distributor for such firms as Budd, Kelsey-Hayes, Motor Wheel, Wire Wheel, Goodyear, Firestone, Jaxon, Dayton and Kay. It will furnish automotive material identical with that supplied by the rim and wheel manufacturers to car factories for original equipment.

Albany is now in the position of some of the larger cities of the state, in respect that there is now a large central stock carried here which can be drawn on for immediate use.

The Albany Motor Specialty Corportion will be able to repair any type of wheel which has been damaged; also to cut down truck wheels using solid tires to accomodte pneumatic tires.

Editor's Column

WITH the current business depression driving some manufacturers and retailers to assume part of the wholesale function in an effort to cut costs and eliminate excess motion, jobbers are placing greater stress on specializing than ever before, it is ascertained in a survey of this field.

Wholesalers are faced with realization that their business is being hit hard and that their sources of supply are seeking other markets. Consequently, they have adopted three methods to retain their place in the economic scheme.

At present they are encountering these difficulties: Manufacturers, in addition to selling to the wholesaler, also distribute through syndicates and chains. The defense of the producer is that he has been driven to it; that the jobber has cut his purchases to a point where a manufacturer can no longer depend on him for volume.

Jobbers are also facing the competition of large chain stores which are buying direct from manufacturers. Not only are they seeking to eliminate the wholesaler, but in many instances they wish to cut out the selling agents.

This is true in other than the automotive industry, where in some instances small merchants are banding together to form buying groups. The eastern representative of a well-known wholesale house, analyzing his business for the third quarter, which had fallen off considerably, discovered that the greater part of the loss was due to the defection of small stores, which had combined to form a syndicate and were buying direct.

The three plans by which jobbers are endeavoring to combat these unfavorable trends are as follows:

They are classifying the selling policies of certain manufacturers and attempting to discover which producers are distributing strictly through wholesalers and which are utilizing other outlets.

They are cutting down on the number of items being carried and specializing on fewer lines, in some instances going into the producing end on large volume sellers.

They are endeavoring to co-operate more intelligently with their sources of supply and with their customers, in the latter case offering promotional ideas, co-operative advertising and similar plans.

Of the three plans, specialization is regarded as the real salvation of the wholesaler. It is being urged upon him constantly by manufacturers.

Successful wholesalers are cutting down the number of lines carried and are concentrating on the large volume sellers, in some instances producing their own brands and in others picking the cream from lines which they regard as "surefire."

TRENTON, N. J., SAFETY LANE IS SUCCESS

Trenton, N. J., Nov. 5.—Hundreds of car owners participated in the safety lane sponsored last week by the Trenton Automobile Club, with free tests of all the safety equipment.

Chief of Police William P. Walter officially opened the campaign when his car was the first to go through and be tested. He was followed by 464 cars that were tested in the Safety Lane established on Academy Street between Montgomery and Broad Streets. Four officers of the Police Department were on duty every day during the week.

Mechanics loaned by the various garages in Trenton did the testing with the aid of the most modern testing equipment.

A car entered the Safety Lane here for testing and made seven stops. At the first a registration card was made out, giving the driver's and owner's names and the essential registration data. The next stop was for a test of lights—head, parking, stop and rear parking, and for focusing. At the third stop, horn, rear view mirror and windshield wiper were tested, while at the fourth stop an examination was made to determine steering wheel play. The fifth stop was for wheel alignment and the sixth for testing brakes. At the last one test cards were presented and the O K stickers given to all cars that successfully passed the test.

It is an interesting fact that only sixty cars out of 450 won the O K stickers on the first examination.

This was the first time a Safety Lane had been held in Trenton. It will be part of the periodic safety campaigns to be conducted by the Trenton Automobile Club to promote safety.

A MOVE designed to parallel in some respects the "Buy Now" consumer campaign will be launched this week under the auspices of the National Council of Traveling Salesmen's Association, it is announced by W. G. Adams, managing director of the council. The object is to increase wholesale distribution through the agency of a larger number of traveling salesmen.

With the slogan "Sales Precede Production—To Restore Prosperity, Put Your Travelers Back on the Road," the council will endeavor to reach manufacturers through an extensive circular mail campaign. Participating are the thirty-three organizations composing the council, which represent practically all lines carried by road salesmen.

COMING EVENTS

NOVEMBER

7- 8—**Cleveland.** National Battery Manufacturers Association meeting at Hollenden Hotel.
6-16—**Berlin, Germany.** International Automobile Show.
8-15—**Chicago, Ill.** Automobile Salon at Drake Hotel.
12—**Cleveland.** Associated Manufacturers of Fabric Automobile Equipment meeting at Hollenden Hotel.
10-13—**Chicago.** American Petroleum Institute meeting at Stevens Hotel.
10-14—**Atlantic City, N. J.** National Hardware Association convention.
18-19—**Chicago.** National Association of Finance Companies' annual convention.
13-19—**Cleveland, O.** Motor and Equipment Association and National Standard Parts Association, Joint Show.
13-23—**Paris, France.** Commercial Vehicle Salon.
14-15—**Los Angeles.** Western Motor Clubs conference.
30-Dec. 6.—**New York city.** Automobile Salon at Commodore Hotel.

DECEMBER

6-17—**Brussels, Belgium.** Automobile Exhibition.

JANUARY

3-10—**New York.** National Automobile Show.
5- —**New York City.** National Automobile Dealers' Association convention.
7-10—**East Orange, N. J.** Automobile Show of the Oranges and Maplewood.
8—**New York City.** Society of Automotive Engineers' annual dinner.
10-16—**St. Louis, Mo.** National Roadbuilders' show and convention.
10-17—**Buffalo, N. Y.** Automobile Show.
10-17—**Philadelphia.** Automobile Trade Association annual show.
10-18—**Newark, N. J.** Automobile Show.
11-17—**Cincinnati, O.** Automobile Show.
17-24—**Boston.** Automobile Show.
17-24—**Detroit, Mich.** Annual Show, Convention Hall.
17-24—**Baltimore, Md.** Automobile Show.
17-24—**Pittsburgh, Pa.** Automobile Show.
19-22—**Chicago.** National Wheel and Rim Association convention at Edgewater Beach Hotel.
19-24—**Detroit, Mich.** Society of Automotive Engineers' annual meeting.
19-24—**Rochester, N. Y.** Automobile Show.
24-31—**Chicago, Ill.** National Automobile Show.
24-31—**Cleveland.** Automobile Show.
24-31—**Washington, D. C.** Automobile Show
26-27—**Chicago.** National Automobile Dealers' Association convention.
31-Feb. 7—**San Francisco.** Automobile Show.

FEBRUARY

1- 7—**Minneapolis, Minn.** Automobile Show.
1- 7—**St. Paul, Minn.** Northwest Automobile Show, jointly sponsored by St. Paul and Minneapolis at the Minnesota State Fair Grounds.
3- —**Minneapolis.** Auto Trade Association convention.
7-14—**Los Angeles.** Automobile Salon.
7-14—**Kansas City** Automobile Show.
14-21—**Omaha, Neb.** Automobile Show.
16-20—**San Francisco.** Society for Steel Treating National Western Metal and Machinery Exposition.
21-28—**San Francisco.** Automobile Salon.

New, Improved Chevrolet At Lower Prices Ready

(Continued from Page 1)

ahead this year came with the early closing of Chevrolet plants for retooling and rearrangement of production lines to build the new models. Manufacturing plants have been busy on parts for the new car since the middle of October, while for the past ten days assembly plants have been turning out the finished cars required by dealers for display purposes.

In keeping with this change in policy, Chevrolet's annual dealer meetings have also been advanced and the first of them will be held in Detroit on Friday of this week.

Four groups of sales officials from the home office will be sent out to talk to the 20,000 Chevrolet dealers throughout the country, each group accompanied by a full carload of theatrical equipment, stage hands, electricians, etc., for Chevrolet always handles these meetings in a big way.

At each of the fifty points scheduled for these meetings, two days will be given over to informing the retailers of the company's plans and showing them the new models. In each place a theater or large hall will be utilized for the meeting.

As now planned the first meeting will be in Detroit Friday of this week instead of in Cleveland last Tuesday. From that point on the executives will be on the jump for this strenuous campaign. D. E. Ralston, assistant general sales manager, will direct the Western meetings, with intermediate extreme points at Minneapolis, Seattle, Los Angeles and El Paso. Group 2 will be in charge of M. D. Douglas, general parts and service manager, with extreme points at New Orleans, San Antonio, Denver and Kansas City.

H. K. White, advertising manager, heads the third group and holds meetings in that territory, with extreme points at Louisville, Birmingham, Jacksonville and Cincinnati. W. E. Holler, in charge of the fourth group, swings the East, touching at New York city, Boston, Portland and west to Buffalo.

TIRE DEALERS HEAR HARVEY S. FIRESTONE

(Continued from Page 1)

view progress made during the past twelve months and the remainder of day will be devoted to discussion by those present.

Tuesday's sessions proved largely in nature of experience meetings, covering various phases of merchandising and service in which tire dealers are engaged beyond the realm strictly of tires. The one set speech of the day was delivered by David R. Reeder of the Vacuum Oil Company, who represented F. W. Lovejoy of the same company. Mr. Reeder presented a strong indorsement of superservice stations.

"There are too many filling and service stations in the country now, and the way they will be reduced in numbers will be through process of survival of the fittest," he said. "Superservice stations with their one-stop idea give master service, diversified and complete, just as department stores and restaurants provide in their fields. Public likes that idea, and it is well to give the public what it likes if the idea is sound. After all, the public is the business man's boss."

A. E. Feragen of the Motor Wheel Corporation devoted entire morning session to a discussion of wheels and rims, while in afternoon an address was delivered on batteries by H. H. Frey, vice-president of the Globe Union Manufacturing Company. Mr. Frey declared that independent tire dealer does and should get most of battery replacement business despite mail order and chain store competition. He stated that car owner prefers to do business with independent dealer because of a desire to see him thrive, but that it is up to independent to furnish merchandise and battery service which will continue to give him edge on competition.

N. J. CHEVROLET DEALERS HOLD GOLF TOURNAMENT

Newark, N. J., Nov. 5.—Chevrolet dealers of Essex and Hudson counties held a golf tournament at the Braeburn Country Club, and, in addition to enjoying the game, were complimented by P. R. Lett, zone manager of the Chevrolet Motor Company, for the excellent business they have done in the past nine months. H. L. Horton, regional sales manager of the company, spoke on the business outlook.

Prizes for the winners in the golf tournament were awarded at the dinner which followed the play. Russell Hoblitzell of Rahway took first prize, with Cliff Saunier second. J. H. Harris, Asbury Park, won the kickers' handicap, with Marty Moore, Elizabeth, second, and Court Whitman third.

DE LOZIER TRANSFERRED BY BROCKWAY TRUCK CO.

Rochester, N. Y., Nov. 5.—Brockway Motor Truck Corporation of Cortland, N. Y., announces the transfer of William T. De Lozier from Cleveland to this city.

Personal Briefs

GRIMLAND TO MANAGE PACKARD WACO BRANCH

Waco, Tex., Nov. 5.—Tom G. Grimland, who has been in charge of the Packard dealership at Waxahachie for the past five years, has been appointed general manager of a branch opened here by the Packard Motor Company. Temporary headquarters have been established at 1007 Austin St.

H. ALLUM RESIGNS FROM DE FOREST-BUICK CO.

Sharon, Pa., Nov. 5.—Harry Allum, who has been connected with the De Forest-Buick Company here for twenty-one years, has resigned his position as sales manager.

GEO. B. CAMPBELL JOINS BISCAYNE CHEVROLET CO.

Miami, Fla., Nov. 5 (UTPS).—George B. Campbell, connected with the Chevrolet Motor Company factory in Philadelphia for several years, has been appointed sales manager for the Biscayne Chevrolet Company, Chevrolet distributor here.

DODGE BROS. NAMES BISHOP AT DALLAS

Dallas, Tex., Nov. 5.—Appointment of John A. Bishop as regional manager in charge of sales for Dodge Brothers in this area has been announced by A. van der Wie, general sales manager. Mr. Bishop will maintain his headquarters at 1406 Republic Bank Building.

IN THE ACCESSORY AND SERVICE FIELD

OPENS 14TH STATION

Newark, N. J., Nov. 5.—The D. & L. Oil Company has opened its latest station, the fourteenth of a chain in Newark and vicinity, at Broad and Emmet Streets. Joseph F. Lynch founded the D. & L. company eight years ago, with a single station at Lincoln Highway and Meadow Street.

SUPER-SERVICE STATION

Downsville, N. Y., Nov. 5.—The Downsville Garage, Inc., has been chartered to operate a service station and repair shop on the main highway through this town. A feature of the new establishment is the complete super-service station, with facilities for washing, polishing and greasing cars.

L. B. ALLNUTT IN CHARGE

East Orange, N. J., Nov. 5.—The Alemite Company of New Jersey, Inc., 18 Central Ave., East Orange, is now under the supervision of L. B. Allnutt, acting as sales manager. Mr. Allnutt was formerly in the factory sales department of the Alemite Corporation in Chicago for five years.

PLAN $10,000,000 BRIDGES

Buffalo, N. Y., Nov. 5.—Detailed plans and specifications for the two proposed Grand Island bridges across the Niagara River here, to be built at a cost of $10,000,000, will be completed within two months and delivered to the Niagara Frontier Bridge Commission, sponsor of the projects, January 1, after which contracts will be awarded for the construction of the structures. Original plans have been revised and numerous changes made, the most important of which are the use of square beams instead of arches, and the adoption of cast aluminum rails.

ADDS NEW DEPARTMENT

Erie, Pa., Nov. 5.—The Motor Brake Service, 10th and Holland Streets, operated as a partnership by Edward and Milan Matthews, and comprising a complete service station for minor motor repairs and brake service on passenger cars and trucks, has added a new department, known as a dispensary of oil, gasoline and lubricating products. Complete facilities have been installed for washing, polishing, lubricating and greasing.

TO SELL TIRES, BATTERIES

Buffalo, N. Y., Nov. 5.—The Becher Tire and Battery Company has been organized to operate a battery sales and service shop, in connection with a complete tire service and one-stop super service station.

STARTS CONSTRUCTION

Emlenton, Pa., Nov. 5.—Construction work has been started on a $250,000 Dubbs cracking unit at the plant of the Emlenton Refining Company, the project being the final one in a series of improvements started last year costing $1,000,000. The new unit is being erected under the supervision of the Universal Oil Products Company of Chicago, controlling the process, and will be ready for operation early next year.

WILL DEAL IN OILS

Orange, N. J., Nov. 5.—The Hall Sales Company, Inc., to deal in oils has been formed by Walter J. Slattery and Thomas F. Feeney, Brooklyn, and Frank M. Wilcox, Maplewood.

ADDS FLUSHING SERVICE

Evansville, Ind., Nov. 5.—Firestone Stores, Inc., 9th and Main Streets, has inaugurated a cool-weather service—flushing radiators for reception of anti-freeze solution, Jack Lyne, manager, announced.

TO MAKE MACHINERY

Hillside, N. J., Nov. 5.—The Lubrication Machinery Corporation of America has been formed here by Joseph W. Woodruff, Bessie Woodruff and John Woodruff, Hillside.

LEONARD REFRIGERATOR NAMES F. D. BREBNER

Grand Rapids, Mich., Nov. 5.—F. D. Brebner, formerly connected with the Chrysler Corporation at its Newcastle, Ind., plant, has been made factory manager in charge of cabinet production for the Leonard Refrigerator Company here.

CURRENT DIVIDENDS

Company	Period	Amount	Payable	Of Record
Allis Chalmers	Quarterly	$0.75	Nov. 15	Oct. 24
Chain Belt	Quarterly	.62½	Nov. 15	Nov. 1
Chicago Yellow Cab	Monthly	.25	Dec. 1	Nov. 20
Goodyear 1st pf	Quarterly	1.75	Jan. 1	Dec. 1
Link Belt	Quarterly	.65	Dec. 1	Nov. 15
Packard	.....	.15	Dec. 12	Nov. 15
Pierce-Arrow	Quarterly	.50	Dec. 1	Nov. 10
Pierce-Arrow pf	Quarterly	1.50	Dec. 1	Nov. 10
Pittsburgh Plate Glass	Quarterly	.50	Dec. 31	Dec. 1
Stewart-Warner	.....	.50	Nov. 15	Nov. 5
Studebaker	Quarterly	.75	Dec. 1	Nov. 10
Studebaker pf.	Quarterly	1.75	Dec. 1	Nov. 10
Timken Roll Bear cl A	Quarterly	.62½	Dec. 31	Dec. 20
Yale & Towne	Quarterly	.50	Jan. 2	Dec. 10

THE *New* NASH

A NEW DEAL FOR TODAY'S DOLLAR

"The announcement of the 4 new series of Nash cars October 9th, creates the greatest selling opportunity any organization ever had."

The above is the consensus of Nash dealers throughout the nation in reporting to us the enthusiastic response from buyers.

from $795 *to* $2025

The 6-60 Series		*The 8-70 Series*		*The 8-80 Series*		*The 8-90 Series*			
Sedan (4-door)	$845	Sedan (4-door)	$995	Sedan (4-door)	$1295	Sedan (4-door)	$1565	Sedan (7-pass.)	$1925
Coupe	$795	Coupe	$945	Coupe	$1245	Cabriolet	$1695	Limousine (7-pass.)	$2025
Coupe (rumble seat)	$825	Coupe (rumble seat)	$975	Coupe (rumble seat)	$1285	Coupe	$1695	Ambassador	$1825
Sedan (2-door)	$795	Special Sedan (4-door)	$955	Town Sedan (4-door)	$1375	Coupe (rumble seat)	$1745	Victoria	$1765

PRICES F. O. B. FACTORIES

Program Is Completed For A. P. I. Meeting

(Continued from Page 3)

Rather, Standard Oil Company of New York.

Flue Gas for Reducing Fire Hazard—A. E. Pew, Jr., Sun Oil Company.

Influence of Fire Hazard in the Petroleum Industry—C. H. Haupt, Standard Oil Development Company, with the collaboration of O. H. Gundlach, Sinclair Refining Company, and W. W. Lowe, H. L. Doherty & Co. Discussion by H. M. Nichols, the Atlantic Refining Company.

MOTOR FUEL

C. L. Henderson, Vickers Petroleum Company, presiding.

Progress Toward a Uniform Method of Measuring Detonation—T. A. Boyd, General Motors Corporation. Discussion by D. P. Barnard 4th, Standard Oil Company of Indiana; Daniel Roesch, Armour Institute of Technology; A. E. Beckett, Standard Oil Development Company; H. W. Camp, Empire Oil and Refining Company; C. H. Schlesman, Standard Oil Company of New York.

The Meaning of the Gasoline Distillation Curve—Graham Edgar, Ethyl Gasoline Corporation; T. A. Boyd, General Motors Corporation; J. Bebbett Hill, the Atlantic Refining Company. Discussion by R. L. Wilson, Standard Oil Company of Indiana.

Aircraft Diesel Engine Fuels—W. pany.

MARKETING PROBLEMS

W. H. Ferguson, Continental Oil Company, presiding.

Safety Mindedness—A Profit Factor in Marketing—G. S. Boetsma, Standard Oil Company of New Jersey.

The Practical Application of the Code—J. E. Dyer, Sinclair Refining Company.

Meetings of the State Code Committees—H. W. Dodge, the Texas Company.

The Spirit of the Code—E. S. Hall, Standard Oil Company of New Jersey.

Code of Marketing Practice—Henry M. Dawes, the Pure Oil Company, presiding.

Reports—Regional code committee chairmen.

Open Forum—H. T. Klein, chairman national committee on interpretation of the code, presiding.

Discussion of the code and its administration.

Questions and answers.

Thursday, November 13.

CORROSION OF OIL FIELD EQUIPMENT

E. P. Bly, Standard Oil Company of California, presiding.

Report of Production Corrosion Committee—E. P. Bly, chairman.

Report on the Work of the Bureau of Standards Underground Corrosion Section During 1930—K. H. Logan, United States Bureau of Standards.

Report of A. P. I. Research Associate—Gordon N. Scott, United States Bureau of Standards.

Pipe Protection—Why and How—Underground Pipe Protection Institute (presented by W. H. Thornhill, secretary-treasurer).

Soil Corrosion—Causes and Predetermination—J. F. Putnam, Standard Oil Company of California.

Corrosion of Production Equipment—Sub-committee on Production Corrosion (presented by Stanley Gill, chairman).

BUSINESS SESSION

William N. Davis, Phillips Petroleum Company, presiding.

Report of William N. Davis, chairman of general committee.

Reports of chairmen of standing committees, as follows:

Central Committee on District Activities—T. E. Swigart, Shell Oil Company.

Central Committee on Standardization—J. Edgar Pew, Sun Oil Company (presented by John R. Suman, Humble Oil and Refining Company).

Committee on Safety—George F. Frussing, Union Oil Company of California.

Central Committee on Standard Procedure for Measuring, Sampling and Testing Crude Oil—W. S. Farish, Humble Oil and Refining Company (presented by W. R. Trelford, Humble Oil and Refining Company).

Committee on Fire Prevention—R. W. Pack, Sun Pipe Line Company.

Committee on Disposal of Production Wastes—V. L. Martin, Prairie Oil and Gas Company.

Committee on Automotive Transporation—R. F. Fike, Mid-Continent Petroleum Corporation.

Election of Twenty Members of the General Committee. Report of Nominating Committee—F. R. Coates, chairman.

Discussion of Divisional Activities.

PETROLEUM REFINING

Presiding: R. E. Wilson, Standard Oil Company (Indiana).

Control of Color of Petroleum Oils by Acid Treating—H. M. Weir, W. F. Houghton and F. M. Majewski, the Atlantic Refining Company. Discussion by: L. C. Beard, Standard Oil Company of New York; L. P. Foster, Sinclair Refining Company.

The Catalytic Reactions of Organic Sulphur Compounds—H. S. Taylor, Princeton University. Discussion by: J. Bennett Hill, the Atlantic Refining Company.

Hydrogenation of Petroleum—R T. Haslam and R. P. Russell, Standard Oil Development Company. Discussion by: H. M. Weir, the Atlantic Refining Company.

BUSINESS SESSION

Presiding: W. M. Irish, the Atlantic Refining Company.

Report of W. M. Irish, chairman of general committee.

Reports of chairmen of standing committees, as follows:—

Corrosion of Refinery Equipment—Walter Samans, the Atlantic Refining Company.

Disposal of Refining Wastes—A. S. Russell, Standard Oil Company of California.

Fire Prevention in Refineries—C. H. Haupt, Standard Oil Development Company.

Refinery Technology—E. W. Isom, Sinclair Refining Company.

Safety in Refineries—C. W. Smith, Standard Oil Company (Indiana).

Standardization of Refinery Equipment—Henry Thomas, the Sun Oil Company.

Testing Methods and Specifications—K. G. Mackenzie, the Texas Company.

Election of Twenty Members of the General Committee.

Report of Nominating Committee—Roy B. Jones, chairman.

Discussion of Divisional Activities.

AUTOMOTIVE TRANSPORTATION

J. F. Winchester, Standard Oil Company of New Jersey, presiding.

Report of Committee on Automotive Transportation—J. F. Winchester, chairman.

Advertising Value of Automotive Equipment—Charles H. McBurney, Marathon Oil Company.

Economies of Automotive Transportation—A. F. Coleman, Standard Oil Company of New York.

Automotive Route Studies—Eugene Power, Union Oil Company of California.

BUSINESS SESSION

Henry M. Dawes, the Pure Oil Company, presiding.

Report of H. M. Dawes, chairman of general committee.

Reports of chairmen of standing committees, as follows:

Disposal of Marketing Wastes—O. H. Gundlach, Sinclair Consolidated Oil Company.

Fire Prevention in Marketing—R. A. Wotowitch, Cities Service Company.

Railroad Transportation—Fayette B. Dow.

Safety in Marketing—R. E. Donovan, Standard Oil Company of California.

Election of twenty members of the general committee.

Rport of nominating committee—Sheldon Clark, Chairman.

Discussion of divisional activities.

ANNUAL DINNER

Speakers—Neil O'Hara, Boston, Mass.; Count Ernesto Russo, Milan, Italy.

AINSWORTH PROFIT SHOWS SHARP DROP

New York, Nov. 5.—The Ainsworth Manufacturing Corporation and subsidiaries report for nine months ended September 30, 1930, net profit of $326,524 after charges, depreciation and Federal taxes, equivalent to $2 a share (par $10) on 163,478 shares of stock. This compares with $991,030, or $6.23 a share, on 159,075 shares in first nine months of previous year.

Net loss for September quarter was $9,664 after charges and depreciation, comparing with net profit of $189,771, equal to $1.16 a share on 163,331 shares in preceding quarter and net profit of $292,274, or $1.84 a share, on 159,075 shares in third quarter of 1929.

Current assets as of September 30, last, including $1,038,073 cash and $359,698 government and municipal bonds, totaled $2,225,131, and current liabilities were $259,498.

OTHER FINANCIAL NEWS

JORDAN

Jordan Motors Corporation, which has made a proposal for acquisition of Jordan Motor Car Company through an exchange of stocks, has notified Jordan stockholders that unless a sufficient number of shares is deposited to complete the transfer by November 14 the offer will be withdrawn.

The proposal offers five shares of the new common for one of the present preferred, and one share of the new common for ten of the present common.

TIMKEN ROLLER BEARING

Net profit of the Timken Roller Bearing Company for the quarter ended September 30, 1930, was $1,167,630 after depreciation, Federal taxes, etc., comparing with $3,731,679 in the third quarter of the previous year.

Net profit for the nine months ended September 30 totaled $7,287,653 after above charges, against $12,180,877 in the first nine months of 1929.

MOTO-METER

Moto-Meter Gauge and Equipment Corporation and subsidiaries report for the nine months ended September 30, 1930, a net loss of $363,400 after expenses, interest and other charges.

For the quarter ended September 30, net loss was $186,826 after above charges, comparing with net loss of $119,179 in the preceding quarter and net profit of $142,272 in the third quarter of 1929, equal to 27 cents a share on 512,900 no-par shares of stock.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS

Real Evidence of Improvement In Business Seen in Ohio Sales

(Continued from Page 2)

ALLIANCE, O., Nov. 5.—Demand for commercial trucks has shown an unmistakable and sharp increase within the past few weeks in the Alliance area, a survey of the leading distributors here this week indicated. Although there has been fair movement of trucks throughout the summer months in this particular district, a sharp pickup in the past two months is reported here.

Dealers who are doing the greatest volume of business declared here this week that the gain in truck sales is due to the improvement generally of business in this area, together with the different attitude on the part of the farmer, who is making rapid strides in this section of the state.

While truck registrations in all of Stark county show a decided improvement the past few months, the increase locally has been decidedly outstanding. In the nine months of this year the Williams Chevrolet Sales Company has disposed of twenty-eight new trucks.

G. H. Clapsaddle, sales manager for Williams Chevrolet, declared this week that truck demand had been on the uptrend for several weeks and from all indications sales would continue to mount for the remainder of the year. "Demand has been in favor of the new Chevrolet one and a half ton chassis," he said. "This type truck has met with popular demand in this sector, particularly has it appealed to the truck farmer in the widely known Hartville celery district, where growers depend on light trucks to expedite their celery delivery to the Pittsburgh and Cleveland markets."

The month of October promises to see the greatest volume of truck business during the year for the Williams Company, according to Mr. Clapsaddle. From all indications 15 new units will have been moved by the end of this month. There has been some delay in getting enough one and a half ton trucks of the type wanted most here, he said.

While there has been some demand for Ford trucks in this section, the response for this make of truck has not been nearly so heavy as in the case of Chevrolet, it was said. A few larger capacity trucks have been placed here within the past several weeks, which brings the total truck business volume to a new high level for recent years.

Dealers here who are concentrating their efforts on truck sales said that improved industrial conditions are largely responsible for the pickup in truck sales and revival of interest on the part of those engaged in the conveyance and transportation business. Inquiries are more numerous than at any time in recent months and sales organizations are putting forth just as much effort on trucks as passenger cars, it was reported.

Reopening of Industrial Plants In Pennsylvania Boosts Sales

ERIE, Pa., Nov. 5.—A survey of the principal commercial vehicle dealers in northwestern Pennsylvania indicates an improving tone to business, with prospects for the final two months of the year much brighter than they were the first of the year. The consensus seems to be that sales volume, both in new and used trucks, during the next eight weeks will be much greater than at any previous time this year. Manufacturing operations in leading industries have been increased considerably since October 1, indicating revival of general business, which is expected to reflect favorably on commercial car sales for the fourth quarter.

Although the lighter models of delivery trucks are in greater demand than the heavier type of truck, an improved call for heavy duty vehicles is expected within a short time. With the approach of winter many commercial car users will be making replacements this month and next.

Prospects are much brighter for business this month, in the report of the local branch of the International Harvester Company of America, both in new and used units. Inquiries received during the past few days indicate heavier sales volume in all types soon.

The Arbuckle Company, Erie, distributor of Reo passenger cars and trucks, reports inquiries from merchants and delivery concerns as picking up and expects a season of highly satisfactory sales.

Ford commercial cars are moving in good volume off the sales floors at the various northwestern Pennsylvania dealerships, and most of the Chevrolet dealers are optimistic, especially since the word has been passed around that the Chevrolet company will engage in the manufacture of its own truck bodies.

FORD CONTINUES TO LEAD IN WAYNE COUNTY SALES

Detroit, Nov. 5.—Passenger car registrations in Wayne county during October totaled 2,094, of which 1,001, or approximately 50 per cent., were Ford cars, compared with a total registration of 4,544 cars in October last year, of which 1,630, or 36 per cent., were Fords.

For the first ten months this year Wayne county registrations totaled 58,631, of which Ford accounted for 35,016, or 59.7 per cent., against 108,848 in like period of 1929, of which total 42,761, or 39 per cent., were Fords.

GRAHAM-PAIGE REOPENS PLANT AT EVANSVILLE

Evansville, Ind., Nov. 5.—The Graham-Paige Body Corporation reopened its factory here today after two weeks' layoff for inventory, with woodworking and sub-assembly departments resuming operations. Production force numbers about 300 people, according to J. W. Evans, factory manager.

JOSEPH BERG

Utica, N. Y., Nov. 5.—Joseph Berg, 54, president of the Berg-Winship, Inc., manufacturers of automobile trunks, luggage, etc., died in this city following a major operation.

CUMULATIVE NEW PASSENGER CAR REGISTRATION STATISTICS, OCTOBER, 1930

States	Auburn	Austin	Buick	Cadillac	Chevrolet	Chrysler	Cord	De Soto	Dodge	Durant	Essex	Ford	Franklin	Gardner	Graham	Hudson	Hupmobile	Jordan	La Salle	Lincoln
Illinois	47	18	442	100	1521	189	25	125	200	24	178	2677	60	6	110	52	52	3	75	45
Ill., 1929	77	979	979	120	2424	403	46	247	385	105	521	4904	38	11	238	298	340	6	212	53

States	Marmon	Nash	Oakland	Oldsmobile	Packard	Peerless	Pierce-Arrow	Plymouth	Pontiac	Reo	Studebaker	Stutz	Viking	Whippet	Willys	Willys-Knight	Windsor	Miscellaneous	Totals
Illinois	50	272	69	117	176	5	18	217	226	29	286	6	26	37	114	36	7	8	7648
Ill., 1929	80	345	197	369	293	27	53	394	501	87	340	29	29	288		93	9	81	14622

A Vital Message to Every Advertiser Who Wants to Reach the Automotive Manufacturer

Send for This Booklet

Gives the names and titles of over 470 executives at passenger car and truck factories, including presidents, vice-presidents, treasurers, sales managers, chief engineers, production managers, plant managers, etc.

WHILE widely read by dealers and distributors of passenger cars and trucks, Automotive Daily News so completely covers the automotive industry that nearly all important factory executives are daily readers.

Factory officials high in the scale are busy men. A great many of them find Automotive Daily News easy and quick to read, at the same time supplying all the important news of all branches of the industry, daily. Among the officials will be found such men as presidents, vice-presidents, treasurers, secretaries, sales managers, general managers, production managers, chief engineers, advertising managers, etc.

The booklet illustrated and now ready for free distribution gives the names and titles of all factory officials in passenger car and truck plants who read Automotive Daily News.

This booklet is for distribution to those who want to reach manufacturing executives in the automotive industry. Salesmen, dealers, etc., cannot be supplied owing to limited number of booklets on hand.

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Without any obligation whatever on my part, I would like copy of booklet entitled "Factory Executives of Today."

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MAJOR SPECIFICATIONS AND MECHANICAL DETAILS OF

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
*Am La France Chief	2	3650	Own	6	3¾x5	33.0	Pw	Str	Vac	DR	Own	C	4	Tim	Wo	31.2	4	D	156	6200	32x6	32x6D
Am. La France W	3-4	3950	Own 2 R	4	4¼x6	28.9	CS	Zen	Vac	AB	Own	C	4	Own	2R	47.4	4	R	160	7200	S36x5	S36x5D
*Am La Fran.Chieftain	3-4	5500	Own	6	4⅛x5⅛	40.8	Pw	Zen	Vac	DR	Own	C	4	Tim	Wo	28.8	4	D	175	7200	*S36x8	36x8D
Am. La France V	5	5500	Own 5 R	4	4¾x6	36.2	CS	Zen	Vac	AB	Own	C	4	Own	Wo	54.4	4	R	165	9800	S36x5	S40x6D
Am. La Fran. Big Chief	6	6725	Own	6	4½x6	48.6	Pw	Zen	Vac	DR	Own	C	4	Own	2R	32.8	4W	D	226	10600	S40x8	S40x8D
Am. La France U	7½	6000	Own 5 R	4	4¾x6	36.2	CS	Zen	Vac	AB	Own	C	4	Own	—	63.5	4	R	165	10500	S36x7	S40x8D
Austin	—	*	Own	4	2.2x3	7.8	CS	Til	—	Aut	W-G	U	3	Sal	Sp	—	4	4	75	——	3.75x18	3.75x18
Autocar A	1½-2	3200	Own	6	4 x4¾	38.4	Pw	Str	Vac	DR	Br-L 51	U	4	Own SA	Sp	27.9	4	R	150	5060	34x7	34x7
Autocar D	2-2½	3500	Own	6	4 x4¾	38.4	Pw	Str	Vac	DR	Br-L 51	U	4	Own SD	2R	33.7	4	R	150	5300	34x7	34x7D
*Autocar SH	2½-3	4300	Own	6	4¼x4¾	43.4	Pw	Str	Gra	LN	Own T	U	4	Own H	2R	44.3	R	R	114	6770	34x7	34x7D
Autocar SCH	2½-3	4300	Own	6	4¼x4¾	43.4	Pw	Str	Vac	LN	Own T	U	4	Own H	2R	44.3	R	D	157	6860	34x7	34x7D
*Autocar H	3	4100	Own	4	4½x5½	32.4	CS	Str	Gra	AB	Own T	U	4	Own H	2R	48.6	R	R	114	6770	34x7	34x7D
*Autocar HS	3½	4600	Own	4	4½x5½	32.4	CS	Str	Gra	AB	Own T	U	4	Own C	2R	53.6	R	R	114	7900	40x8	40x8D
*Autocar SHS	3-3½	4800	Own	6	4¼x4¾	43.4	Pw	Str	Gra	LN	Own T	U	4	Own C	2R	53.6	R	R	114	7900	40x8	40x8D
*Autocar SCHS	3-3½	4800	Own	6	4¼x4¾	43.4	Pw	Str	Vac	LN	Own T	U	4	Own C	2R	53.6	R	D	157	8180	40x8	40x8D
Autocar TEA	3-3½	5350	Own	6	4¼x4¾	43.4	Pw	Str	Vac	LN	Own T	U	12	Own TE	2R	101.7	4	D	192	8900	36x8	36x8D
Autocar TFA	3½-5	6100	Own	6	4½x4¾	48.6	Pw	Str	Vac	LN	Own T	U	12	Own TF	2R	101.3	4	D	192	9300	38x9	38x9D
Autocar C	3½-5	5500	Own	6	4½x4¾	48.6	Pw	Str	Vac	LN	Own B	C	4	Own C	2R	61.7	R	D	172	9500	42x9	42x9D
Autocar F	7½	6800	Own	6	4½x4¾	48.6	Pw	Str	Vac	LN	Br-L 70	C	7	Tim	Wo	94.0	4	D	173	11000	36x7S	40x8DS
Autocar G	10	9000	Own	6	4½x4¾	48.6	Pw	Str	Vac	LN	Br-L 70	C	7	Tim	Wo	97.7	WB	D	171	13000	36x8	36x8D
Brockway 60	1	995	Con	6	3⅜x4	27.3	Pb	Zen	P	Aut	W-G	U	3	Col	Sp	—	4	Tr	132	3200	30x5	30x5
Brockway 65	1	1195	Con	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Aut	Br-L	U	3	Col	Sp	—	4	Tr	137	3400	30x5	30x5
Brockway 75	1¼	1290	Con	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Col	Sp	—	4	Tr	137	3450	32x6	32x6
Brockway 90	1½	1525	Con	6	3⅜x4⅝	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Col	Sp	—	4	Tr	149	3650	32x6	32x6
Brockway 120	2	1990	Con	6	4 x4⅛	38.4	Pb	Zen	P	Aut	Br-L	U	4	Tim	Sp	—	4	Tr	156	5200	32x6	32x6D
Brockway 140	2-2½	2495	Con	6	4 x4⅛	38.4	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	156	5500	32x6	32x6D
Brockway 141	2½	2935	Con	6	4 x4⅛	38.4	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4	D	170	6200	32x6	32x6D
Brockway 170	2½	3160	Con	6	4⅛x4¾	40.8	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	6800	32x6	32x6D
Brockway 175	3	3660	Con	6	4⅜x4¾	45.9	Pb	Zen	P	Aut	—	U	5	Wis	2R	—	4	D	170	7200	34x7	34x7D
Brockway 195	3-3½	3820	Con	6	4⅛x4¾	40.8	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	7500	34x7	34x7D
Brockway 190	3	4185	Con	6	4⅛x4¾	40.8	Pb	Zen	P	Aut	Br-L	C	7	Tim	Wo	—	RV	D	168½	7625	34x7	34x7D
Brockway 220	3½-4	4560	Con	6	4⅜x4¾	45.9	Pb	Zen	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	8200	36x8	36x8D
Brockway 250	5	5950	Con	6	4⅜x4¾	45.9	Pw	Zen	P	Aut	Br-L	U	4	Tim	Wo	—	4HV	D	182	10000	40x8	40x8D
Brockway 290	7½	7250	Con	6	4¾x5¾	54.15	Pw	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4W	D	182	10750	38x7P	40x14S
*Brockway 640	10	9700	Con	6	4¾x5¾	54.15	Pw	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4W	D	212	14000	38x7P	36x10S
Chevrolet	½	365	Own	6	2 5/16x3¾	26.3	CS	Car	P	DR	Own	U	3	Own	Sp	13.61	4	R	107	1835	4.75x19	4.75x19
Chevrolet	1½	520	Own	6	3⅛x3¾	26.3	CS	Car	P	DR	Own	U	4	Own	Sp	33.46	4	R	131	2375	30x5	30x5
Commerce Series S 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L 20	U	4	Tim 54006	Sp	29.2	4	D	162	4500	32x6P	32x6D
Commerce Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L 35	U	4	Tim 63702	Wo	34.8	4	D	168	4900	36x6	36x6D
Commerce Series 40	2½	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L 35	U	4	Tim 63702	Wo	34.8	4	D	168	5100	36x6P	36x6D
Commerce Series 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706DH	Wo	63.0	4	D	175	7000	36x6P	36x6D
Commerce Series 60	3	4680	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706DH	Wo	63.0	4	D	175	7100	36x6P	36x6D
Commerce Series 80	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700DP	Wo	98.2	B	D	175	8200	36x6S	36x12S
Commerce Series 80	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700DP	Wo	98.2	B	D	175	8400	36x6S	36x12S
Commerce Series 100	5	5830	Bud B A 6	6	4¼x5¼	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 68700DP	Wo	95.0	B	D	175	9600	36x6S	40x14S
Day Elder 60	1	1195	Con 25 A	6	3⅜x4	27.3	Pw	Zen	P	DR	W-G	U	4	Tim	Sp	36.3	4	R	135	3200	20x6.00B	20x6.50B
Day Elder 85	1½	1645	Con 16 C	6	3⅜x4⅝	27.3	Pw	Zen	P	DR	W-G	U	4	Tim	Sp	42.3	4	R	135	3750	20x6.00	20x6.50DB
Day Elder 110	2	2095	Con 16 C	6	3⅜x4⅝	27.3	Pw	Zen	P	DR	Br-L	U	4	Tim	Sp	44.9	4	D	156	4600	20x7.00	20x7.00DB
Day Elder 130	2½	2895	Con 16 R	6	4 x4⅛	38.4	Pw	Zen	P	DR	Br-L	U	4	Tim	Sp	40.7	4	D	150	6300	20x7.50B	20x7.50DB
Day Elder 160	3	3695	Con 18 R	6	4 x4½	38.4	Pw	Zen	P	DR	Br-L	U	4	Tim	Wo	36.1	4	D	156	6600	20x7.50B	20x9.00DB
Day Elder 200	4	4295	Con 18 R	6	4 x4½	38.4	Pw	Zen	P	DR	Br-L	U	4	Tim	Wo	43.5	4	D	156	7400	20x9.00B	20x9.00B
Day Elder 240	5	5500	Con 21 R	6	4⅜x4¾	45.9	Pw	Zen	Vac	DR	Br-L	C	4	Tim	Wo	50.8	4	D	162	9300	38x9P	38x9DP
Day Elder 285	8	6000	Con 21 R	6	4⅜x4¾	45.9	Pw	Zen	Vac	DR	Br-L	C	7	Tim	Wo	71.2	6	D	164	12000	20x8.25B	20x8.25DB
Day Elder 345	10	7500	Con 21 R	6	4⅜x4⅜	45.9	Pw	Zen	Vac	DR	Br-L	C	7	Tim	Wo	79.9	4	D	164	12500	20x9.00B	20x9.00DB
Day Elder 402	12	8500	Con 16 H	6	4¾x5¾	54.2	Pw	Zen	P	DR	Br-L	C	7	Tim	Wo	84.6	4	D	164	14000	20x9.75B	20x9.75DB
Diamond T 200	1	785	Bud	4	3¾x4½	22.5	*Pw	Zen	P	Aut	W-G	U	4	Cla	Sp	—	4	D	128½	3050	30x5	30x5
Diamond T 215	1	885	Bud	6	3⅜x4	27.3	Pw	Zen	P	Aut	W-G	U	4	Cla	Sp	—	4	D	135⅛	3150	30x5	30x5
Diamond T 290	1½	1475	Her WXA 2	6	3½x4½	29.4	Pb	Zen	Vac	Aut	Cov	U	4	Col	Sp	—	4	D	156¼	4160	30x5	30x5D
Diamond T 303	2	1745	Her WXB	6	3¾x4½	33.7	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	—	4	D	160¾	4850	32x6	32x6D
Diamond T 551	2½	2250	Her WXC	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	—	4	D	168	5600	32x6	32x6D
Diamond T 506	2½	2820	Her WXC	6	4 x4½	38.4	Pb	Zen	Vac	Aut	Cov	U	4	Wis	2R	—	4	D	172½	6300	34x7	34x7D
Diamond T 504	3	2925	Her WXC 2	6	4¼x4½	43.3	Pb	Zen	Vac	Aut	Cov	U	4	Tim	2R	—	4	D	166½	6400	20x8.25B	20x8.25DB
Diamond T 602	3	3440	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	C	4	Tim	Wo	—	4	D	169½	7500	36x8	36x8D
Diamond T 606	3	3500	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	U	4	Wis	2R	—	4	D	186	7500	36x8	36x8D
Diamond T 700	3½	3740	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Cov	C	4	Tim	Wo	—	R	D	162	8100	S36x5	S36x10
Diamond T 801	4	4140	Her YXC	6	4⅜x4¾	45.9	Pb	Zen	Gra	Aut	Br-L	C	7	Own	Wo	—	6WH	D	189½	8300	36x8 4 wh	36x8
Diamond T 1000	5	4420	Her YXC 2	6	4½x4¾	48.6	Pb	Zen	Gra	Aut	Br-L	C	4	Tim	Wo	—	R	D	170½	9700	S36x6	S40x12
Diamond T 1200	6	5600	Her YXC 2	6	4½x4¾	48.6	Pb	Zen	Gra	Aut	Br-L	C	7	Tim	Wo	—	4RW	D	180	11000	34x7 4 w h	34x7D
Diamond T 1600	8	6220	Her YXC 3	6	4⅝x4¾	51.3	Pb	Zen	Gra	Aut	Br-L	C	7	Tim	Wo	—	4RW	D	190	11700	36x8 4 wh	36x8D
Diamond T 1601	8	7500	Wak 6 R B	6	5 x5¾	60.0	Pb	Zen	Gra	Mag	Br-L	C	7	Tim	Wo	—	4RW	D	194	12500	36x8 4 wh	36x8D
Diamond T 2500	10-12	8000	Wak 6 R B	6	5 x5¾	60	Pb	Zen	Gra	Mag	Br-L	C	7	Tim	Wo	—	4RW	D	194	13100	S36x7 4 wh	36x12S
Dodge Bros. UF10A	½	435	Own	4	3⅝x4¾	21.2	Pb	Car	P	DR	Own	U	3	Own	Sp	14.28	4	D	109	1855	5.00x19	5.00x19
Dodge Bros. F 10 A	½	515	Own	6	3⅛x4⅛	23.4	Pb	Car	P	DR	Own	U	3	Own	Sp	14.28	4	D	109	1960	5.25x19	5.25x19
Dodge Bros. U-1	¾	695	Own	4	3⅝x4¼	21.3	Pb	Car	Vac	NE	Own	U	3	Own	Sp	21 68	4	D	124	2260	5.50x20B	5.50x20B
Dodge Bros DA1	¾	795	Own	6	3⅜x3⅞	27.3	Pb	Zen	Vac	NE	Own	U	4	Own	Sp	36.83	4	D	140	2955	30x5	30x5
Dodge Bros. UF30A	1½	595	Own	4	3⅝x4¾	21.0	Pb	Car	P	DR	Own	U	4	Own	Sp	37.17	4	D	136	2665	6.00x20	32x6
Dodge Bros. F 30 A	1½	695	Own	6	3⅛x4¼	23.4	Pb	Car	P	DR	Own	U	4	Own	Sp	37.17	4	D	136	2765	6.00x20	32x6
Dodge Bros. F 35 A	1½	1425	Own	6	3⅜x2⅞	27.3	Pb	Zen	P	DR	Own	U	4	Own	Sp	41.43	4	D	140	3780	6.00x20	6.00x20D
Dodge Bros. F 40 A	2	1995	Own	6	3⅝x5	31.5	Pb	Zen	P	DR	Own	U	4	Own	Sp	43.73	4	D	150	5175	6.50x20	6.50x20D
Dodge Bros. F 60 A	3	2645	Own	6	3⅝x5	31.5	Pb	Zen	P	DR	Own	U	4	Own	Sp	48.87	4	D	146	5543	32x6	32x6D
Dodge Bros. F 61 A	3	2575	Own	6	3⅝x5	31.5	Pb	Zen	P	DR	Own	U	4	Own	Sp	48.87	4	D	170	5789	32x6	32x6D
Durant	*¾	495	Con	4	3⅜x4¼	18.2	Pb	Til	Vac	Aut	Own	C	3	Own	Sp	16.16	4	4	107	1670	28x4.75	28x4.75
Essex Commercial	¾	445	Own	6	2⅝x4½	18.2	CS	Mar	Vac	Aut	Own	U	3	Own	Sp	17.8	4	4	110	2150	30x5	31x5.50
Federal D	1-1½	830	Con W 10	4	3⅞x4¼	24.0	Pb	Zen	P	DR	W-G T9	U	4	Cla B374	Sp	40.8	4	Tr	131	3185	6.00x20	32x6
Federal E6	1-1½	1090	Con 17 E	6	3⅜x4	27.3	Pb	Zen	Vac	DR	W-G T9	U	4	Cla B370	Sp	34.6	4	Tr	132	3260	6.00x20	32x6
Federal F7	1½	1525	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	P	DR	Own	U	4	Tim 52005H	Sp	24.3	4	Tr	132	3765	30x5	30x5D
Federal A6	2	1855	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Cla B610	Sp	38.5	4	Tr	151	4580	32x6	32x6D
Federal A6T	2½	2185	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Tim 58000H	Sp	41.3	4	Tr	151	4950	32x6	32x6D
Federal A6TW	2½	2360	Con 16 C	6	3⅜x4⅝	27.3	Pb	Zen	Vac	DR	Own	C	4	Tim 65001H	Wo	42.0	4	Tr	151	4950	32x6	32x6D
*Federal DSW	2½-3	1050	Con W 10	4	3⅞x4¼	24.0	Pb	Zen	P	DR	W-G T9	U	4	Cla B-374	Sp	40.8	6	Tr	158	3800	6.00x20	32x6
Federal T10R	2½-3	2740	Con 16 R	6	4 x4⅛	38.4	Pb	Zen	P	DR	Own	C	4	Tim 58200H	Sp	36.3	4	Tr	165	6550	34x7	34x7D
Federal T10W	2½-3	2915	Con 16 R	6	4 x4⅛	38.4	Pb	Zen	P	DR	Own	C	4	Tim 65201H	Wo	44.0	4	Tr	165	6550	34x7	34x7D
Federal U6	3-3½	3860	Con 18 R	6	4 x4½	38.4	Pb	Str	P	DR	Br-L 55	C	7	Tim 65706HP	Wo	64.6	4	D	165	7220	34x7	34x7D
Federal 4C6A	4-5	4735	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim 66704HP	Wo	73.6	4	D	192	8330	36x8	36x8D
Federal 4C6AB	4-5	4960	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim 66704TWP	Wo	73.6	4	D	192	8850	36x8	36x8D
*Federal U6SW	6	6000	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim SW 200	Wo	71.3	6	Tr	201	9850	34x7	34x7D
*Federal U6SWAB	6	6500	Con 20 R	6	4⅛x4¾	40.8	Pb	Zen	P	DR	Br-L 55	C	7	Tim SW 200	Wo	71.3	6	Tr	201	9900	34x7	34x7D
Federal X8	7½	5085	Con B 7	4	5 x6	40	Pw	Zen	Vac	AB	Br-L 60	C	7	Tim 68700DP	Wo	110.9	R	D	162	9750	36x6S	40x14S
*Federal X8R	7½	5810	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	P	DR	Br-L 60	C	7	Tim 68700DP	Wo	110.9	R	D	162	10000	40x8	40x8D
*Federal 4C6SW	6	7500	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	P	DR	Br-L 55	C	7	Tim SW 300	Wo	80.8	6	Tr	231	11500	36x8	36x8D
Ford AA	1½	510	Own	4	3⅞x4¼	24.0	Sp	Zen	Gra	Own	Own	U	4	Own	St	42.24	4	R	131½	2723	6.00x20	32x6
Ford AA	1½	535	Own	4	3⅞x4¼	24.0	Sp	Zen	Gra	Own	Own	U	4	Own	St	42.24	4	R	157	3161	6.00x20	6.00x20
F. W. D.—H	1½	3300	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	Eis	Cotta	C	4	Own	St	38.1	4	R	121	5300	34x7	34x7
F. W. D.—H6	2	3425	Wak	6	3¾x4½	29.4	Pb	Zen	Vac	Eis	Br-L	U	4	Own	St	35.0	4	R	133	5500	34x7	34x7
F. W. D.—BTI4	2	3900	Wis S U	4	4 x5	25.6	Pb	Zen	Vac	Eis	Br-L	C	7	Own	St	84.7	4	R	120	6000	36x8	36x8
F. W. D.—HH6	2½	4000	Wak	6	3¾x4½	33.7	Pb	Zen	Vac	Eis	Br-L	C	7	Own	St	101|0	4	R	133	5700	36x8	36x8
F. W. D.—B	3	4200	Own	4	4¾x5½	36.1	Pb	Str	Gra	Eis	Own	C	3	Own	St	35.6	4	R	124	6460	36x6S	36x6S
F. W. D.—B 5	3	4525	Own	4	4¾x5½	36.1	Pb	Str	Gra	Eis	Own	C	5	Own	St	88.6	4	R	132	6880	36x6S	36x6S
F. W. D.—B T	3	4742	Own	4	4¾x5½	36.1	Pb	Str	Vac	Eis	Own	C	5	Own	St	101.0	4	R	133¾	7700	40x7S	40x5SD
F. W. D.—U 4	3	4575	Own	4	4¾x5½	36.1	Pb	Str	Vac	Eis	Own	C	5	Own	St	88.6	4	R	148	7000	36x6S	36x6S

1930 COMMERCIAL CARS BUILT IN THE UNITED STATES

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
F. W. D.—C U 6	3½	5120	Wak	6	4 x4¾	38.6	Pb	Zen	Vac	Eis	Own	C	5	Own	St	88.6	4	R	143	7200	36x6S	36x8S
F. W. D.—M 5	5	7600	Wak	6	4⅜x5⅛	45.9	P	Zen	P	Aut	Br-L	C	8	Wis	2R	193.1	4W	D	165	11000	12.75x20B	12.75x20B
*F. W. D.—X 6	6	6500	Wak	6	4¼x4¾	43.3	Pb	Zen	Vac	Eis	Own	C	5	Own	St	88.6	"	4	170	9500	36x8	36x8
F. W. D.—M 7	7½	8700	Wak	6	5 x5¾	60	P	Zen	P	Aut	Br-L	C	8	Wis	2R	193.1	4V	D	165	13000	40x10P	40x10DP
Garford Series S 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 54010	Sp	29.2	4	D	162	4500	32x6	D32x6
Garford Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 63702	Wo	34.8	4	D	168	4900	36x6	D36x6
Garford Series 40	2½	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 63702	Wo	34.8	4	D	168	5100	36x6	D36x6
Garford Series 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706 D H	Wo	63.0	4	D	175	7000	36x6	D36x6
Garford Series 60	3	4680	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706 D H	Wo	63.0	4	D	175	7100	36x6	D36x7
Garford Series 80	3½	5250	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700 D P	Wo	98.2	4	D	175	8200	S36x6	S36x12
Garford Series 80	4	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700 D P	Wo	98.2	4	D	175	8400	S36x6	S36x14
Garford Series 100	5	5830	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700 D P	Wo	95.0	4	D	175	9600	S36x6	S40x14
Gen. Mot. T11-1001	*3800	625	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Pontiac	Sp	14.7	4	4	109⅝	1980	5.00x19B	5.50x19B
Gen. Mot. T15-1501	*5400	695	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51500	Sp	16.14	4	4	130	2625	5.50x20B	5.50x20B
Gen. Mot. T17-1701	*5500	735	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51505	Sp	16.04	4	4	130	2650	6.50x20B	6.50x20B
Gen. Mot. T17-1707	*6500	750	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Own	U	3	Tim 51505	Sp	16.04	4	4	130	2670	5.50x20B	32x6
Gen. Mot. T19-2201	*6300	895	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	34.45	4	D	130	2850	5.50x20B	32x6
Gen. Mot. T19-2214	*8500	995	Pontiac	6	3⅛x3⅞	26.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	34.45	4	D	130	2925	30x5	30x5D
Gen. Mot. T25-2501	*6800	1235	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	29.62	4	D	130	3375	6.00x20B	7.50x20B
Gen. Mot. T25-2509	*8500	1300	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Tim 5261	Sp	29.62	4	D	130	3425	30x5	30x5D
Gen. Mot. T30-3206	*9000	1555	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1617	Sp	28.6	4	D	141	4450	6.00x20B	8.25x20B
Gen. Mot. T30-3203	*11000	1605	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1617	Sp	28.6	4	D	141	4525	32x6	32x6D
Gen. Mot. T42-4206	*10600	1735	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1717	Sp	33.38	4	D	141	4575	7.00x20B	9.00x20B
Gen. Mot. T42-4203	*14000	1960	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat 1717	Sp	33.38	4	D	141	4905	36x6	36x6D
Gen. Mot. T44-4401	*12000	1965	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat T44DR	2R	40.89	4	D	141	4825	32x6	32x6D
Gen. Mot. T44-4404	*15000	2095	Buick	6	3⅞x4⅝	28.3	Pb	Mar	P	DR	Mun	U	4	Eat T44DR	2R	40.89	4	D	141	5095	34x7	34x7D
Gen. Mot. T60-6202	*16500	3035	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Mun	U	4	Tim 65706	Wo	52.53	4	D	154¼	6925	34x7	34x7D
Gen. Mot. T60-6205	*18500	3150	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Mun	U	4	Tim 65706	Wo	52.53	4	D	154⅛	6925	9.00x20B	9.00x20DB
Gen. Mot. T82-8202	*19000	3795	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim 66704	Wo	82.2	4	D	155	7500	9.00x20B	9.00x20DB
Gen. Mot. T82-8207	*22000	4070	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim 66704	Wo	82.2	4	D	155	7850	38x7	38x9D
Gen. Mot. T90-9001	*23000	5885	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim SW-200	Wo	76.04	WR	D	185¼	9400	7.50x20B	7.50x20D
Gen. Mot. T90-9004	*28000	6055	Buick	6	3¾x5	33.7	Pb	Mar	P	DR	Br-L	C	5	Tim SW-200	Wo	76.04	WR	D	185¼	9775	8.25x20B	8.25x20DB
*Gramm B	1¾	1495	Lyc 4 SL	6	3¼x4½	25.3	Pb	Zen	Vac	Aut	Cov	U	4	Tim	Sp	34.3	4	Tr	140	3800	6.50x20	6.50x20D
*Gramm C	2	1795	Lyc ASA	6	3⅝x4½	31.54	Pb	Zen	P	Aut	Cov	U	4	Tim	Sp	31	4	Tr	160	4820	7.00x20	7.00x20D
*Gramm D	2½	2195	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Ant	Cov	U	4	Tim	Sp	33	4	Tr	160	5100	7.50x20	7.50x20D
*Gramm E	3	2595	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	U	4	Tim	Sp	35	4	Tr	160	5300	8.25x20	8.25x20D
*Gramm EY	3	3595	Con 20 R	6	4⅛x4¾	40.80	Pb	Zen	P	Aut	Ful	U	4	Tim	Sp	30	4	D	190	6750	32x6	32x6D
*Gramm T-38	3	3595	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	45	D	R	153	7200	36x5S	36x10S
*Gramm O-45	4	3995	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	C	8	Wis	2R	75.8	D	R	153	7700	36x5S	36x12S
*Gramm GY	4	4345	Con 21 R	6	4⅜x4¾	45.9	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	28	4	D	210	7200	34x7	34x7D
*Gramm O-60	5	4745	Lyc TS	6	3⅞x5	36	Pb	Zen	P	Aut	Ful	C	8	Wis	2R	78.4	D	R	153	8800	36x6S	36x14S
*Gramm HY	5	6545	Con 16 H	6	4¾x5¾	54.15	Pb	Zen	P	Aut	Ful	U	4	Wis	2R	25.2	4	D	236	9600	36x8	36x3D
Indiana 60	1	995	Con	6	3¾x4	27.3	Pb	Str	P	Aut	W-G	U	3	Col	Sp	—	4	Tr	132	3200	30x5	30x5
Indiana 64	1	1195	Con	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L	U	3	Col	Sp	—	4	Tr	137	3400	30x5	30x5
Indiana 74	1¼	1290	Con	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L	U	4	Col	Sp	—	4	Tr	137	3450	32x6	32x6
Indiana 11	1¼	1425	Her	4	4 x5	25.6	Pb	Str	Gra	Aut	Br-L	U	3	Cla	Sp	—	R	R	129½	3500	30x5	30x5
Indiana 89	1½	1525	Con	6	3⅜x4⅝	27.3	Pb	Str	Vac	Aut	Br-L	U	4	Col	Sp	—	4	Tr	149	3650	32x6	32x6
Indiana 111	1½	1630	Her	4	4 x5	25.6	Pb	Str	Gra	Aut	Br-L	U	3	Cla	Sp	—	R	R	129½	360"	30x5	32x6
Indiana 111 XW	2	1850	Her	4	4 x5	25.6	Pb	Str	Vac	Eis	Br-L	U	4	Wis	2R	—	R	Tr	120	3740	32x6	32x6D
Indiana 120	2	1990	Con	6	4 x4⅛	38.4	Pb	Str	P	Aut	Br-L	U	4	Tim	Sp	—	4	Tr	156	5200	32x6	32x6D
Indiana 140	2-2½	2495	Con	6	4 x4⅛	38.4	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	156	5500	32x6	32x6D
Indiana 141	2½	2935	Con	6	4 x4⅛	38.4	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	6200	32x6	32x6D
Indiana 115 A	2½	2740	Her	4	4¼x5	28.9	Pb	Str	Vac	Eis	Br-L	U	4	Cla	Sp	—	R	Tr	132	4970	32x6	34x7D
Indiana 170	2½	3160	Con	6	4⅛x4¾	40.8	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	--	4HV	D	170	6800	32x6	32x6D
Indiana 175	3	3660	Con	6	4⅜x4¾	45.9	Pb	Str	P	Aut	—	U	5	Wis	2R	--	4HV	D	170	7200	34x7	34x7D
Indiana 127 AW	3	3775	Her	4	4¼x5¾	28.90	Pb	Str	Vac	Eis	Br-L	U	5	Wis	2R	—	RV	D	150⅛	7000	34x7	34x7D
Indiana 627 AW	3	4075	Wis	6	4 x5	38.40	Pb	Str	Vac	Eis	Br-L	U	5	Wis	2R	—	RV	D	156¼	7200	34x7	34x7D
Indiana 195	3½-3	3820	Con	6	4⅛x4¾	40.8	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	--	4HV	D	170	7500	34x7	34x7D
Indiana 190	3	4185	Con	6	4⅛x4¾	40.8	Pb	Str	P	Aut	Br-L	C	7	Tim	Wo	—	RV	D	168½	7625	34x7	34x7D
Indiana 220	3½-4	4560	Con	6	4⅜x4¾	45.9	Pb	Str	P	Aut	Br-L	U	4	Wis	2R	—	4HV	D	170	8200	36x8	36x8D
Indiana 250	5	5950	Con	6	4⅜x4¾	45.9	Pb	Str	P	Aut	Br-L	U	4	Tim	Wo	—	4HMV	D	182	10000	40x8	40x8D
Indiana 290	7½	7250	Con	6	4¾x5¾	54.1	Pw	Str	P	L-N	Br-L	C	7	Tim	Wo	—	4W	D	182	10750	38x7P	40x14S
*Indiana 640	10	9700	Con	6	4¾x5¾	54.1	Pw	Str	P	L-N	Br-L	C	7	Tim	Wo	--	4W	D	212	14000	38x7P	36x10S
International AW-1	¾	720	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Eat 517	Sp	17.4	4	2	136	2620	5.25x20	5.25x20
Int. Harvester Sp. Del.	¾	720	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Eat 502 R	Sp	15.1	4	2	124	2200	30x5.25	30x5.25
Int. Harv. 6 Spd. Spec.	1	820	Wak X A	4	3½x4½	19.6	Pb	Zen	Vac	DR	Mec	U	3	Eat 1124	Sp	52.6	4	2	124	2430	30x5	30x5
Int. Harvester S-24	1¼	1160	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	DR	Own	U	3	Eat 1002	Sp	21.3	4	2	130	3200	30x5	30x5
Int. Harvester S-26	1¼	1310	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	3	Eat 1002	Sp	21.3	4	2	130	3250	30x5	30x5
Int. Harvester SF-34	1½	1450	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	DR	Own	U	3	Eat 1502	Sp	22.6	4	2	140	3520	30x5	32x6
International AL-3	1½	1450	Lyc SLH	6	3¼x4½	25.3	Pb	Zen	Vac	DR	W-G	U	4	Eat 1518	Sp	42.9	4	2	138	4200	6.00x20	6.00x20D
Int. Harvester SF-36	1½	1600	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	3	Eat 1502	Sp	22.6	4	2	140	3570	30x5	32x6
Int. Harvester SD-44	2	1590	Lyc C T	4	3¾x5	22.5	Pw	Zen	Vac	AB	Own	U	4	Eat 2002	Sp	40.6	4	2	117	3700	30x5	32x6
Int. Harvester SD-46	2	1740	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	AB	Own	U	4	Eat 2002	Sp	40.6	4	2	117	3750	30x5	32x6
Int. Harvester SF-46	2	1950	Lyc 4 S L	6	3¼x4½	25.3	Pb	Zen	Vac	DR	Own	U	4	Eat 2002	Sp	40.6	4	2	140	4000	32x6	32x6D
Int. Harvester A-4	2	1985	Own-FBB	6	3⅝x4½	31.5	Pb	Zen	Vac	DR	Own	U	5	Eat 1712	Sp	47.8	4	2	145	5070	32x6	32x6D
Int. Harvester HS-54	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Eat 54	2R	60.5	4	4	148	8000	36x5S	36x8S
Int. Harvester HS-54-C	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Own A M 428	Ch	63.8	4	4	148	8665	36x5S	36x10S
Int. Harvester W-1	2½	3850	Hall-S 151	4	4¼x5½	28.9	Pb	Zen	Vac	RB	Own	U	5	Eat 58	2R	60.5	4	2	148	8300	36x5S	36x8S
Int. Harvester A-5	3	2550	Own-FBB	6	3⅝x4½	31.5	Pb	Zen	Vac	DR	Own	U	5	Eat 2112	Sp	52.6	4	2	156	5606	34x7	34x7D
Int. Harvester HS-74	3½	4850	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Eat 74	2R	70.5	4	4	160	10700	36x5S	40x12S
Int. Harvester HS-74-C	3½	4850	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Own A M 427	Ch	79.1	4	4	160	11000	36x6S	40x12S
Int. Harv's'r HS-104-C	5	5500	Hall-S 152	4	4¾x5½	36.1	Pb	Zen	Vac	RB	Own	U	5	Own A M 427	Ch	90.5	4	4	160	11095	36x6S	40x14S
La France-Repub. A-1	*6600	795	Lyc	6	2⅞x4¾	19.8	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	36.1	4	Tr	132	3000	5.50x20	32x6
La France-Repub. C-1	*7000	1295	Lyc	6	3¼x4½	25.4	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	29.1	4	Tr	144	3300	6.00x20	32x6
La France-Repub. D-1	*9000	1595	Lyc	6	3¼x4½	25.4	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	37.9	4	Tr	144	3725	30x5	30x5D
La France-Repub. F-2	*13000	2395	Lyc	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Ful	U	4	Tim	Sp	40.1	4	D	174	5400	32x6	32x6D
La France-Repub. H-1	*15000	2985	Lyc	6	3⅞x5	36.0	Pb	Zen	Vac	Aut	Ful	U	4	Eat	Sp	36.0	4	D	163	5850	34x7	34x7D
La France-Repub. L-1	*18000	3595	Lyc	6	3⅞x5	36.0	Pb	Zen	Vac	Aut	Ful	U	4	Eat	2R	48.0	4	D	180	6900	36x8	36x8D
La France-Repub. M-1	*20000	3800	Wak	6	4 x4¾	38.4	Pb	Zen	Vac	Aut	Ful	U	5	Eat	2R	62.3	R	D	171	6900	36x8	36x8D
Mack BL	1	2500	Own	6	3¼x5	25.39	Pw	Str	Vac	NE	Own	U	4	Own	Sp	Opt	4	D	148	—	B6.00x20	DB6.00x20
†'Mack BG	1½	3000	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	Sp	Opt	4	D	138-156	—	32x6	D32x6
Mack AB	2½-3	3950	Own	4	4¼x5	28.9	Pb	Str	Gra	RB	Own	U	4	Own	2R	Opt	R	D	2-Opt	—	36x4S	36x8S
††Mack AB	2½-3	3500	Own	4	4¼x5	28.9	Pb	Str	Gra	RB	Own	U	4	Own	Ch	Opt	R	D	2-Opt	—	36x4S	36x8S
Mack AB	2½-3	4750	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	2R	Opt	R	D	2-Opt	—	34x7	D34x7
††Mack AB	2½-3	4300	Own	6	3⅝x5	31.57	Pw	Str	Vac	NE	Own	U	4	Own	Ch	Opt	R	D	2-Opt	—	34x7	D34x7
††Mack B	3-4	5250	Own	6	4 x5½	38.4	Pb	Str	Vac	NE	Own	U	4	Own	2R	Opt	4	D	2-Opt	—	36x8	D36x8
††Mack BC	3½-5	5500	Own	6	4 x5½	38.4	Pb	Str	Vac	NE	Own	U	4	Own	Ch	Opt	4	D	2-Opt	—	36x8	36x8D
††Mack BJ	3½-5	6150	Own	6	4½x5½	48.6	Pb	Str	Vac	NE	Own	C	4	Own	2R	Opt	4	D	3-Opt	—	36x8	36x8D
††Mack AK	3½-5	5150	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	4	J	3-Opt	—	36x5S	36x5DS
††Mack AK	3½-5	5250	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	C	4	Own	2R	Opt	4	D	3-Opt	—	36x5S	36x5DS
††Mack AC	3½-5	4950	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	—	36x5S	40x10S
††Mack AC	5½-7	5500	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	—	36x6S	40x12S
††Mack AC	7½	6000	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	J	R	3-Opt	—	36x7S	40x14S
††Mack AP	7½	9500	Own	6	5 x6	60.0	Pb	Str	Gra	NE	Own	J	4	Own	Ch	Opt	R	J	191	—	36x7S	40x8DS
††Mack A C 6-wheel	10	7500	Own	4	5 x6	40.0	Pb	Str	Gra	RB	Own	J	4	Own	Ch	Opt	4R	J	3-Opt	—	36x7S	40x12S
††Mack AP 6-wheel	10	12000	Own	6	5 x6	60.0	Pb	Str	Gra	NE	Own	J	4	Own	Ch	Opt	4R	J	3-Opt	—	36x7	40x12S
Paige	¾	860	Own	6	3¼x4½	25.35	Pb	DL	P	DR	W-G	U	3	Sal	Sp	17.36	4	Tr	115	2465	B5.50x19	B5.50x19
Relay Series 15 A	1	1400	Con 17 E	6	3⅜x4	27.3	Pb	Str	Vac	Aut	W-G	U	4	Own	2R	6.00	4	D	131	3800	P30x5	P30x5
Relay Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Own	R	34.5	4	D	168	5500	36x6	D36x6
Relay Series 50	2	3860	Bud D W 6	6	3¾x5	33.7	Pb	Zen	Vac	Aut	Br-L	U	5	Own	R	58.5	4	D	161	6800	36x6	D36x6
Relay Series 40	2½	3275	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Own	R	34.5	4	D	168	5700	36x6	D36x6
Relay Series 50	2½	4000	Bud D W 6	6	3¾x5	33.7	Pb	Zen	Vac	Aut	Br-L	U	5	Own	R	58.5	4	D	161	7000	36x6	D38x7

Major Specifications and Mechanical Details of 1930 Commercial Cars Built in the United States

Make and Model	Capacity—Tons	Chassis Price	Engine	No. of Cyl.	Bore and Stroke	Tax H. P.	Oil System	Carburetor	Fuel Feed	Ignit. System	Gear Set	Location	No. Spds. For.	Rear Axle	Final Drive	Reduction in Low	Brakes, Foot	Brakes, Hand	Standard Wheel Base	Chassis Weight	Standard Tire Sizes Front	Rear
Relay Series 60	2½	4555	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Own	R	58.5	4	D	175	7350	36x6	D36x6
Relay Series 50	3	4130	Bud D W 6	6	3¾x5	33.7	Pb	Zen	Vac	Aut	Br-L	U	5	Own	R	58.5	4	D	161	7200	36x6	D40x8
Relay Series 60	3	4595	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Own	R	58.5	4	D	175	7500	36x6	D38x7
Relay Series 80	3	5330	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	U	8	Own	R	84.18	4	D	175	8400	36x6	S40x10
Relay Series 60	3½	4745	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Own	R	58.5	4	D	175	7800	38x7	D40x8
Relay Series 80	3½	5330	Bud B A	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Cov	C	8	Own	R	84.18	4	D	175	8600	36x6	S40x12
Relay Series 80	4	5380	Bud B A	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Cov	C	8	Own	R	84.18	4	D	175	8800	38x7	S40x14
Relay Series 100	5	6615	Con 21 R	6	4⅜x4¾	45.9	Pb	Str	Vac	Aut	Ful	U	5	Own	R	58.5	4	D	230	10000	9.00x24	D9.75x24
Reo D F 129	½	1095	Own	6	3⅜x5	27.3	Pb	Sch	P	DR	Own	U	3	Own	Sp	17.1	4	Tr	129	—	6.00x20	32x6
Reo 15 Junior	½	785	Con 19 E	6	3⅜x4	27.3	Pb	Sch	P	DR	W-G	U	3	Sal	Sp	14.63	4	Tr	115	2290	6.00x18	6.00x18
Reo D F	1	1095	Own C B	6	3⅜x5	27.3	Pb	Sch	P	DR	Own	U	3	Own	Sp	17.1	4	Tr	135	3200	6.00x20	32x6
Reo F A	1½	1295	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	34.32	4	Tr	137	3525	6.00x20	32x6
Reo F E	1½	1395	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	34.32	4	Tr	152	3700	6.00x20	32x6
Reo F F	1½	1395	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	34.32	4	Tr	156	3750	6.00x20	32x6
Reo F H	2	1595	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.6	4	Tr	142	4165	32x6	32x6D
Reo F C	2	1645	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.62	4	Tr	152	4025	32x6	32x6D
Reo F D	2	1745	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	37.62	4	Tr	168	4075	32x6	32x6D
Reo G A	3	2035	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	41.05	4	Tr	163	4625	32x6	32x6D
Reo G C	3	2140	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	41.05	4	Tr	179	4850	32x6	32x6D
Reo G D	3	2085	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	78.1	4	Tr	144	4570	32x6	32x6D
Reo G C S	3	2375	Own	6	3⅜x5	27.3	Pb	Sch	Vac	DR	Own	U	4	Own	Sp	41.05	4	Tr	210	5320	32x6	32x6D
Rugby T	½	655	Con	6	3¼x4	25.4	Pb	Str	P	Aut	Own	U	3	Own	Sp	15.6	4	4	—	2160	29x5	29x5
Rugby 6-15	1	865	Con	6	3¼x4	25.4	Pb	Str	P	Aut	Br-L	U	4	Sal	Sp	34.49	4	Tr	135	2900	20x5.50	32x6
Rugby 615	1½	930	Con	6	3¼x4	25.4	Pb	Str	P	Aut	Br-L	U	4	Sal	Sp	34.49	4	Tr	135	3000	5.50x20	30x5D
Selden 7 C	1	1098	Con	6	2¾x4¾	19.84	Pb	Zen	Vac	Aut	Br-L	U	3	Tim	Sp	—	4	D	124	3600	30x5	30x5
Selden 17 C	1½	1500	Con	6	3⅜x4	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	142	3000	32x6	32x6
Selden 317 C	1½	1610	Con	6	3⅜x4⅜	27.34	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	142	3900	32x6	32x6
Selden 37 C	2	1935	Con	6	3⅜x4⅜	27.34	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	151	4800	32x6	32x6D
Selden 39 C	2½	2920	Con	6	4 x4¼	38.4	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	164	5800	32x6	32x6D
Selden 47 C B	3½	3785	Con	6	4 x4½	38.4	Pb	Str	Vac	Aut	Br-L	U	4	Tim	Sp	—	4	D	171	7200	34x7	34x7D
Selden 47 C D	4	4435	Con	6	4 x4½	38.4	Pb	Str	Vac	Aut	Br-L	U	5	Wis	2R	—	4	D	171	7600	36x8	36x8D
Selden 67 C	5	4975	Con	6	4⅜x4¾	45.94	Pb	Str	Vac	Aut	Br-L	C	7	Wis	2R	—	4	D	171	8700	36x8	36x8D
Selden 77	7	7365	Con	6	4¾x5¾	54.15	Pb	Str	Vac	Aut	Br-L	C	7	Wis	2R	—	4	D	178	12000	36x7	40x7D
Service Series S 11	2	2030	Bud H S 6	6	3⅜x4½	27.3	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 54000	Sp	29.2	4	D	162	4500	32x6	D32x6
Service Series 40	2	3240	Bud D S 6	6	3⅝x5	31.5	Pb	Zen	Vac	Aut	Br-L	U	4	Tim 63702	Wo	34.8	4	D	168	4900	36x6	D36x6
Service Series 60	2½	4580	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706 D H	Wo	63.0	4	D	175	7000	36x6	36x6
Service Series 60	3	4680	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Ful	U	5	Tim 65706 D H	Wo	63.0	4	D	175	7100	36x6	D38x7
Service Series 80	3½	5250	Bud B A 6	6	4¼x5¼	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700 D P	Wo	98.2	4	D	175	8200	S36x6	S36x12
Service Series 80	4	5330	Bud B A 6	6	4¼x5¼	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700 D P	Wo	98.2	4	D	175	8400	S36x6	S36x14
Service Series 100	5	5830	Bud B A 6	6	4⅛x5⅛	40.8	Pb	Zen	Vac	Aut	Br-L	C	7	Tim 66700 D P	Wo	95.0	4	D	175	9600	S36x6	S40x14
Stewart 30	1	695	Lyc AFE	4	3¾x4½	22.5	Pb	Str	Vac	DR	W-G	U	4	Sal	Sp	35.1	4	D	130	2905	6.50x20	6.50x20
Stewart 30 X	1	795	Lyc WRG	6	2⅞x4¾	19.8	Pb	Str	Vac	DR	W-G	U	4	Sal	Sp	35.1	4	D	130	2965	6.50x20	6.50x20
Stewart 40	1½	895	Lyc AFE	4	3¾x4½	22.5	Pb	Str	Vac	DR	W-G	U	4	Cla	Sp	35.1	4	D	130	3215	6.50x20	6.50x20D
Stewart 40X	1½	995	Lyc WTG	6	3 x4½	23.8	Pb	Str	Vac	DR	W-G	U	4	Sal	Sp	35.1	4	D	130	3250	6.50x20	6.50x20D
Stewart 34 X	1½	1195	Lyc 4 SL	6	3¼x4½	25.3	Pb	Str	Vac	DR	W-G	U	4	Cla	Sp	35.1	4	D	145	3526	6.50x20	6.50x20
Stewart 28 X	1¾	1495	Lyc 4 SL	6	3¼x4½	25.3	Pb	Str	Vac	DR	Ful	U	4	Cla	Sp	44.1	4	D	136	3958	6.50x20	6.50x20
Stewart 29XS	2	1695	Lyc ASA	6	3⅝x4½	25.3	Pb	Str	P	DR	Ful	U	4	Cla	Sp	44.1	4	D	145	4450	32x6	32x6D
Stewart 26 XW	2	2290	Lyc TF	6	3⅜x5	31.5	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	48.1	4	D	165	5095	32x6	32x6D
*Stewart 18 X	2½	2690	Lyc TF	6	3⅜x5	31.5	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	48.1	4	D	165	5788	32x6	32x6D
Stewart 32 X	2½	1990	Lyc ASA	6	3⅝x4½	31.54	Pw	Str	Vac	DR	Ful	U	4	Cla	Sp	46.1	4	D	165	5100	32x6	32x6D
Stewart 35 X	3	2590	Lyc AFD	6	3¾x4½	33.8	Pw	Str	P	DR	Ful	U	4	Cla	Sp	46.1	4	DR	165	5800	8.25x20B	8.25x20D
Stewart 33 X	3	3290	Lyc TS	6	3⅞x5	36.2	Pw	Str	Vac	DR	Ful	U	4	Tim	Wo	105.1	4	D	165	6450	34x7	34x7D
Stewart 19 X	3½	3690	Lyc TS	6	3⅞x5	36.2	Pw	Str	Vac	DR	Ful	C	12	Tim	Wo	105.1	4	D	165	7010	36x5	36x10
Stewart 31 X	5	4990	Wak 6 RSL	6	4⅜x5⅛	45.9	Pw	Str	Vac	DR	Ful	C	8	Tim	Wo	82.1	4	D	165	8400	36x6S	36x6SD
Stewart 27 X	6-7	5700	Wak 6 RSL	6	4⅜x5⅛	45.99	Pw	Str	Vac	DR	Ful	U	8	Tim	Wo	93.81	4	D	165	9927	36x7	40x7D
Studebaker GN-P	¾	845	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	15.15	4	4	115	2465	6.00x19	6.00x10
Studebaker GN-S	1	1045	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	13.8	4	D	130	2990	6.00x20	30x5
Studebaker GK-N	1	1095	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Own	U	3	Own	Sp	13.8	4	D	146	3000	30x5	30x5
Studebaker S-20	1½	695	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	36.2	4	4	130	3000	6.00x20	32x6
Studebaker S-30	1½	775	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	36.2	4	4	160		6.00x20	32x6
Studebaker S-50	2	895	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	37.4	4	4	148		6.50x20	6.50x20D
Studebaker S-60	2	945	Own	6	3¼x4⅛	25.4	Pb	Str	P	DR	W-G	U	4	Tim	Sp	37.4	4	4	160		6.50x20	6.50x20D
Studebaker GN-N	*4000	1245	Own	6	3⅜x4⅛	27.3	Pb	Str	P	DR	Cla	U	4	Cla	Sp	33.5	4	D	146	3265	30x5	32x6
Studebaker 77	*12500	2895	Own	8	3½x4⅜	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	158	5030	7.00x20	7.00x20D
Studebaker 88	*12500	3295	Own	8	3½x4⅜	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	184	5200	7.50x20	7.50x20D
Studebaker 99	*14000	3795	Own	8	3½x4⅜	39.2	Pb	Str	P	DR	Ful	U	4	Eat	Sp	24.6	4V	D	184	5680	7.50x20	7.50x20D
Whippet 96 A	½	360	Own 96 A	4	3⅛x4¾	15.6	Pb	Til	Vac	Aut	Own	U	3	Own	Sp	14.74	4	B	103¾	1665	4.75x19	4.75x19
White 15 B		1545	Own GKA	4	3¾x5⅛	22.5	CS	Zen	Vac	L-N	Own	C	4	Own	Sp	18.6	R	R	133½	3402	30x5	30x5
White 60		1850	Own 2 A	6	3½x4½	29.4	Pw	Zen	Vac	DR	Own	U	3	Own	Sp	17.9	4	D	138	3739	30x5	30x5
White 57		2725	Own GRC	4	4 x5¾	25.6	Pw	Zen	Vac	L-N	Own	U	4	Own	Sp	19.3	R	R	146	3935	32x6	32x6
White 20 A		2125	Own GKA	4	3¾x5⅛	22.5	CS	Zen	Vac	L-N	Own	*C	4	Own	2R	32.1	R	R	145½	4572	34x5	34x5D
White 61		2450	Own 4 A	6	3¾x4½	33.75	Pw	Zen	Vac	DR	Own	U	4	Own	Sp	23.4	4	D	148	4789	30x5	30x5D
White 56		3125	Own GRC	4	4 x5¾	25.6	Pw	Zen	Vac	Mag	Own	U	4	Own	Sp	26.2	R	D	165	5276	36x4S	36x7S
White 51 A		3750	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	Sp	35.6	R	D	170	6438	36x5S	36x9S
White 58		4400	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	IG	49.7	D	R	170	6438	36x5S	36x9S
White 55		4650	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	IG	66.1	D	R	174	8737	36x5S	40x5SD
White 52 T		4700	Own GR3	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	4	Own	IG	76.5	D	R	129½	8461	36x5S	40x5SD
White 52		5100	Own GRB	4	4¼x5¾	28.9	Pw	Zen	Vac	Mag	Own	U	5	Own	IG	92.3	D	R	174	9409	36x6S	40x12S
White 59 A		6000	Own 3 A	6	4 x5¼	38.4	Pw	Zen	P	DR	Own	U	4	Own	Sp	66.5	D	R	155	9775	40x8	40x14S
White 63		5000	Own 3 A	6	4 x5¼	38.4	Pw	Zen	P	DR	Own	U	4	Own	Sp	41.4	4	D	168	8350	34x7P	34x7DP
White 64		6300	Own 1 A	6	4⅜x5¾	45.94	Pw	Zen	P	LN	Own	U	4	Own	2R	46.8	4	D	180	9154	36x8P	36x8DP
Willys Six 98 B	½	525	Own 98 B	6	3¼x3⅞	25.35	Pb	Til	Vac	Aut	Own	U	3	Own	Sp	14.28	4	B	110	1904	5.50x19	5.00x19
Willys Six C-101	1½	695	Own 98 B	6	3¼x3⅞	25.35	Pb	Til	Vac	Aut	Own	U	4	Cla	Sp	42.33	4	B	131	2740	5.50x20	30x5
Willys-Knight T-103	1½	825	Own KGT	6	2¹³/₁₆x4⅜	20.7	Pb	Til	Vac	Aut	Cov	U	4	Cla	Sp	42.33	4	B	131	2848	5.50x20	30x5

GENERAL NOTATIONS

***REFERENCE MARKS** apply to individual lines only and explanations are given under the subdivision for each company in the "SPECIAL NOTATIONS.".

CAPACITIES given in this table are in tons or fractions of tons. *Shows maximum allowable gross weight in pounds.

WHEEL BASES given are standard, but optional wheel bases are available in many cases.

ENGINE—Bud, Buda; Con, Continental; Her, Hercules; Kgt, Knight; Lyc, Lycoming; Wak, Waukesha; Wis, Wisconsin; Hall, American Car & Foundry.

LUBRICATION—Pb, pressure lubrication to main and connecting rod bearings; Pw, full pressure lubrication to all main, connecting rod and camshaft bearings, including wrist pins; CS, circulating splash; Sp, splash.

CARBURETOR—Car, Carter; Mar, Marvel; Sch, Wheeler-Schebler; Str, Stromberg; DL, Detroit Lubricator; Til, Tillotson; Zen, Zenith-Detroit.

FUEL FEED—Gra, Gravity; Vac, Vacuum tank; P, Fuel pump.

IGNITION—AB, American-Bosch; Aut, Electric Auto-Lite; Eis, Eisemann; L-N, Leece-Neville; N-E, North East; RB, Robert Bosch; DR, Delco-Remy; Mag, Magneto.

TRANSMISSION—Br. L, Brown-Lipe; Cov, Covert; Ful, Fuller; Mec, Mechanics Machine; Mun, Muncie; W-G, Warner Gear; Cotta Cotta Gear Company; Cla, Clark Equipment Company.

LOCATION—C, center, amid; U, in unit with engine; J, on jackshaft.

REAR AXLE—Cla, Clark Equipment; Col, Columbia; Eat, Eaton; Sal, Salisbury; Tim, Timken; Wis, Wisconsin.

FINAL DRIVE—IG, Internal gear; St, Straight bevel; Sp, Spiral bevel; Wo, Worm; 2R, Double reduction; Ch, Chain; R, Relay drive.

BRAKES—J, Jackshaft; R, Rear wheels; D, Drive shaft; 4, four-wheel; Tr, Transmission; V, Vacuum booster; W, Westinghouse air brake; B, Both front and rear wheels.

TIRES—B, Balloon; D, Dual; S, Solid; P, Pneumatic

SPECIAL NOTATIONS

AMERICAN-LA FRANCE

*Chief model also available as 2½-ton model, 34x7 tire, dual rear, weight 6,400. Price $3,900

Chieftain model also available as Dump Truck, 160-inch wheel base.

Balloon tires optional on Chief, Chieftain and Big Chief models.

AUSTIN

*Price announced in forthcoming issue.

AUTOCAR

*Engines in these models are located under the driver's seat.

BROCKWAY

*Six wheelers.

DIAMOND T.

Myers Magazine oiling system for chassis optional equipment.

DURANT

*Price includes panel body.

F. W. D.

*Indicates six-wheel model. Special power take-off transmission, which provides 3 power take-offs which may be operated in any transmission speed, optional on all models.

*Foot brake on X6 is a Lockheed type, operating on all six wheels.

FEDERAL

*Six wheelers.

GRAMM

Series	Straight Rating	Add Wheel Base	Pay Load Range
6	10,000	157-174	1¾ tons
C	11,000	145-196	2 tons
D	13,000	145-196	2½ tons
E	15,000	145-196	3 tons

GENERAL MOTORS TRUCK

*Capacity indicated for each chassis is the recommended gross weight without exceeding rated capacity of tires. The tire size does not affect the straight rating for which chassis is guaranteed and each model is designed to operate satisfactorily under average conditions with loads giving a total gross weight (chassis, body, equipment and payload) equal to straight rating given below. The additional standard wheel base lengths, the number of additional tire types (tire combinations—each type carrying a recommended gross weight) and the ton range on a nominal payload basis for each model is given below.

Model	Straight Rating	Additional Wh. bases, ins.			Addit'l Tire Types	Pay'd Range
T-11	3800	None			None	½
T-15	5400	141			2	¾
T-17	6500	141			6	¾-1¼
T-19	8500	141		151	20	1-2
T-25	8500	141		152	15	1-1¾
T-30	11000	152		164	13	1½-2½
T-42	14000	152	164	181	10	2-3½
T-44	15000	152	164	181	10	2-4
T-60	18500	166¾	184½	200¼	16	2½-4½
T-82	22000	167½	185¼	201	10	3-6
T-90	28000	201		220	5	5-7½

Optional rear axle ratios are available for all models.

INDIANA

*Six wheelers.

MACK

Other wheel bases furnished on all truck models.

On 6-wheel jobs, 4 rear wheels driven by chains, foot brake on 4 rear wheels.

HYP—Hypoid drive, single reduction.

†Made also in tractor models.

REO

Model F A also available in 129-inch wheel base.

RUGBY

F—Chassis weight includes body.

STEWART

Model 30 and 30X can also be supplied in 129 and 140-inch wheel base.

Model 40 can also be supplied in 140 and 160-inch wheel base.

*Model 34X can be supplied in 145, 160 and 176-inch wheel base.

Model 28X can be supplied in 145, 160 and 176-inch wheel base.

Model 29XS can be supplied in 160 and 176-inch wheel base.

*Model 26XW can be supplied in 148, 176 and 190-inch wheel base.

*Models 18X, 32X and 33X can be supplied in 148, 190 and 220-inch wheel base.

*Models 19X, 31X and 27X can be supplied in 148 172, 190, 220 and 235-inch wheel base.

As optional equipment models 18X, 19X, 33X, 31X and 27X can be supplied with Timken dual reduction rear axle.

STUDEBAKER

*Capacity model GN-N is 4,000 pounds for body, cab, driver and payload.

Maximum gross load, chassis, body and payload for Models 77 and 88 is 12,500 lbs. and for Model 99 is 14,000 lbs.

‡Hand brake same as foot brake, standard. Hand brake on drive shaft, special equipment.

Production--Engineering--Factory

Determining and Comparing Tractive Ability

By AUSTIN M. WOLF
(Abstract)

THE tractive ability of a motor vehicle is the measure of its power to overcome outside resistances to its translation, based on the tangential force exerted by the driving wheels at their points of contact with the road. The propelling force is derived from the engine. The tangential force is a function of the engine torque, and, knowing the horse power of the engine, the torque can be expressed as

$$t \text{ (in. lb.)} = \frac{\text{Hp.} \times 63025}{\text{RPM}}$$

The torque impressed on the axle shaft in high gear is theoretically the axle torque multiplied by the axle reduction. Should any of the transmission gears be used, this value is increased by multiplying by the ratios of the transmission gears. The general over-all efficiency is generally assumed to be 85 per cent.

Knowing the torque on the axle shaft, the force exerted at the point of contact between the tire and the road is equal to the torque divided by the rolling radius of the tire. This latter dimension should be in inches if the torque is expressed in inch pounds.

The tractive effort in direct drive is, therefore,

$$TE = \frac{t \times R \times e}{r} \quad (2)$$

If the transmission gears are used, this becomes

$$TE = \frac{t \times R \times R_t \times e_t}{r} \quad (3)$$

where

TE = tractive effort
t = engine torque, in inch pounds
R = axle ratio
R_t = transmission reduction ratio
e = 85% over-all efficiency of drive in direct gear
e_t = 75% over-all efficiency of drive in indirect gear
r = rolling radius of tire in inches

Formulas (2) and (3) give the tractive effort of a vehicle. Probably no two vehicles of different make because of their varying characteristics would be alike. In order to be able to make comparisons on a common basis the tractive effort per pound of gross vehicle weight can be used. The formula for this tractive factor is derived by placing, W, the gross weight in the denominator of formulas (2) and (3). These then become:

$$TF = \frac{t \times R \times e}{r \times W} \quad (4)$$

(in direct gear) or,

$$= \frac{t \times R \times R_t \times e_t}{r \times W} \quad (5)$$

(in indirect gear)

Here the author illustrated the use of the formula (5) with an example and analyzed various factors which influence the result.

It is stated that an abnormally large engine would aid in giving a large tractive factor figure at the expense of economy. The latter expressed in ton-miles per gallon, is an important item in maintenance costs. In order that a decision would not be made based on the tractive factor alone, the author developed an economic factor on the basis of the number of cubic inches of piston displacement required to move one pound of weight (based on the gross weight) a distance of one mile. This presupposes that one cubic inch of displacement will develop the same amount of power in one engine that it will in another. One-half the displacement is utilized in the formula, since it is more in keeping with the "inspirating" of a four-cycle engine. The number of cubic inches per mile in high gear is then

$$\frac{5280 \times 12 \times R \times D}{2(Pi)r} = \frac{5042 \times R \times D}{2 \quad r} \quad (6)$$

and the number of cubic inches per pound per mile is

$$EF = \frac{5042 \times R \times D}{r \times W} \quad (7)$$

Where:
EF = economic factor.
R = axle ratio.
r = rolling radius of tire.
D = displacement.
W = gross weight in pounds.

Here the author illustrated the use of teh formula for comparing two trucks.

The author closed his paper with a discussion of tractive resistances including rolling resistance, grade resistance, and air resistance. Their sum is called the tractive resistance and is opposed to the tractive effort. If the tractive effort is greater than the external resistances the excess TE will accelerate the vehicle.

Results of tests, curves and tables amplified the paper.

*Consulting engineer, Newark, N. J. From a paper delivered before the transportation meeting of the Society of Automotive Engineers at Pittsburgh recently.

WRENCHLESS DISC HOLDER

BEHR - MANNING CORPORATION, Troy, N. Y., has devised a wrenchless disc holder for use with disc sanding pads. The two wings on the holder slip through the slots in the disc, which then hold the disc to the pad. It is stated that for changing discs by this method three operations are required, compared with seven by the usual means when a wrench is employed.

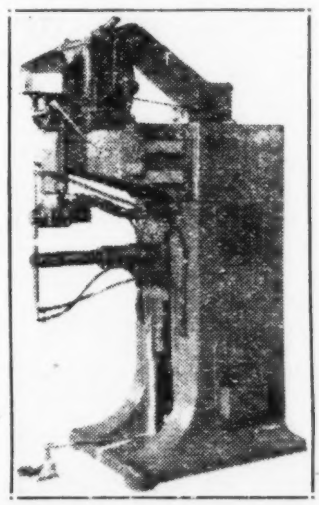
NEW THOMSON-GIBB No. 2 PRESS WELDER

Thompson-Gibb Electric Welding Company, Lynn, Mass., and Bay City, Mich., recently introduced its No. 2 press welder, an automatic spot welder, said to incorporate many principles developed by the automotive industry.

All semi-high speed parts are inclosed and the driving mechanism is mounted on the top of the machine. This reduces the floor space required by approximately 30 per cent., compared with former designs of this type of equipment, it is claimed.

Timken taper roller, Hyatt roller and ball thrust bearings are used in the construction of the machine.

This machine is available in the following standard throat depths: 12, 18, 24, 30, 36 or 42 inches. The machines are equipped with either a sixty KVA or a 100 KVA water



THOMPSON-GIBB NO. 2 PRESS WELDER

cooled transformer affording a maximum welding capacity on the short throat depth machine of two thicknesses of No. 10 gauge.

The shorter throat depth machines have a capacity to make four projection welds at one stroke on fourteen gauge stock, the four projections being within a four-inch radius.

The driving mechanism consists of a motor, a four-speed change gear box and a worm reduction unit.

Any one of five speed combinations are available on this new press welder. The slow speed combination gives four speeds varying from fifteen to thirty s. p. m. The fastest speed combination gives four welding speeds, varying from sixty to 130 s. p. m.

The clutch is mounted in the worm reduction unit.

The entire worm reduction unit and clutch and the change speed gear box" are totally inclosed and run in a bath of oil.

Using heavy pressure springs, this machine can deliver pressures up to 2,000. A standard feature of these machines is an indicating pressure scale, located in the welding head to facilitate the recording of desired pressure for resetting purposes.

The remote control switch cam is placed on the front end of the operating cam shaft to facilitate making adjustments of this cam which controls duration of current dwell.

Oxweld Portable Machine For Testing Welds

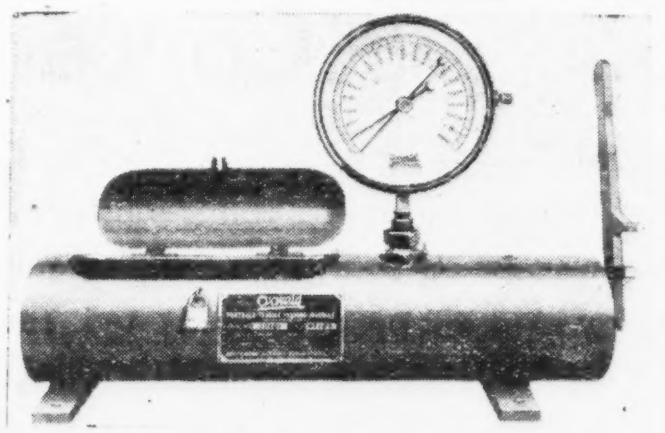


Fig. 1. Oxweld Portable Tensile Testing Machine

Oxweld Acetylene Company, New York, announces the Oxweld portable tensile testing machine, designed to facilitiate the testing of welds in the field or shop.

This machine weighs 165 pounds and measures 28 inches overall length and 6¾ inches in maximum diameter. It is a self-contained, totally enclosed unit. When closed for shipment, there are no projections and the machine presents a comparatively smooth cylindrical surface.

The machine consists of a tubular compression member with a set of grips in the head and a hydraulic cylinder block in its base. The cylinder block contains a communicating pump and cylinder directly machined into a single block, and the cylinder pressure operates a piston carrying a second set of grips.

The specimen to be tested is placed between the jaws, which have spring grips. The release valve is closed and the pump handle, applied at the end of the cylinder, is moved back and forth. A set of conical blocks has also been constructed to fit into the machine head in place of the grips so that the standard ½-inch diameter round specimens may be tested if desired. The load is measured directly in pounds per square inch by a suitable, calibrated pressure gauge actuated by the pressure in the cylinder. The gauge is one of the essential parts of the apparatus. When a test is finished, the pressure may be released by a valve and the piston may be returned to its original position by using the pump handle as a lever.

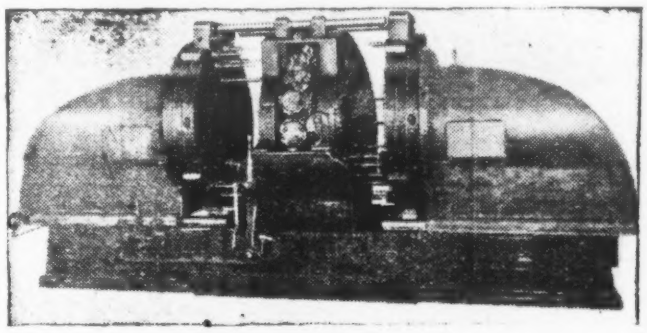
This machine makes it possible to secure a tensile test result immediately after welds are made.

NEW SPRING SHACKLE GREASING BAR

FAIRMOUNT 8295 straight-type spring shackle greasing bar

The Fairmount Tool and Forging Company has announced its new spring shackle greasing bars, which are available in six models. It is claimed that they facilitate the greasing of these parts by eliminating the necessity for loosening the shackles during this operation. The accompanying illustration shows the straight-type bar in use.

Special Machine Built For Difficult Operation



EX-CELL-O specially built machine for drilling and counterboring

Recently the Ex-Cell-O Aircraft and Tool Corporation, Detroit, Mich., was called upon to design a machine for drilling and counterboring thirteen unevenly distributed radial holes in a drop forged steel part. Not only are they unevenly distributed, but the depth and size vary, depending upon their location. By having more than one operation in several of the holes it was impossible to use a radial type of machine.

Illustrated, herewith, is the finished machine which Ex-Cell-O built, the heads and fixture located in the center of the complete machine. The fixture is located in the exact center of the machine, while the two multiple drill heads are mounted on either side. The part to be drilled is located in the fixture by a three-point bearing and is clamped by means of an equalizing toggle operated by a spanner. Owing to the irregular spacing of the holes, as described above, several extra stations were required in addition to the regular operating stations on the trunnion fixture.

As the trunnion is indexed 22 degrees, the part is rotated 12 degrees on its axis. This is accomplished by means of a pinion on the fixture and a stationary ring gear on the bushing plate, which brings each hole to its working position. Perfect alignment of the rotating fixture and drills is insured by means of a hardened and ground guide bar interlocking the stationary bushing plate and the rotating fixture. The guide bar enters hardened and ground bushings both in the bushing plate and the fixture. There is one guide bar for each working station which insures individual alignment for each hole. Due to the weight of the trunnion fixture, it is indexed by a crank, worm and worm wheel instead of the usual hand-indexing method.

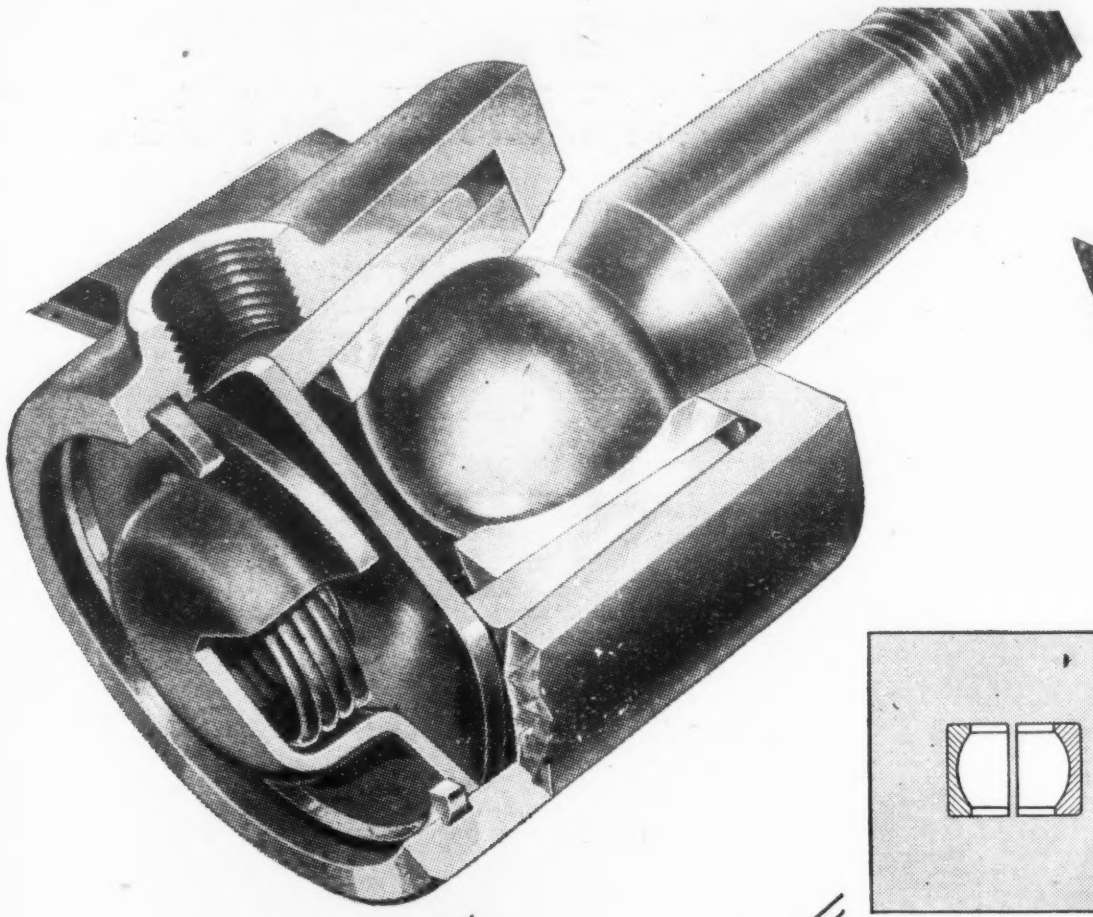
During the different operations the thirteen holes are drilled, varying in size from 3-16 inch to 9-16 inch diameter. Only five of these holes are counterbored. A new part is loaded in the fixture while the remainder are in operation.

The large multiple head at each side is full ball-bearing and direct motor-driven. The heads are mounted vertically on the slides of a specially designed two-way hydraulic feed machine, while the fixture is mounted on the bed of the machine proper. The motors driving the multiple head are mounted in the slides supporting the multiple heads. The heads are approximately six feet in diameter.

The heads and fixtures are held in positive alignment by two large hardened and ground bars as shown at the top of the fixture. These bars enter hardened and ground bushings at the top of each of the multiple heads. A hand control for starting and stopping the feed is conveniently located, while an emergency foot stop is also furnished as shown directly below the hand control lever.

The base for mounting the multiple heads, fixture and motor equipment was built by the W. F. & John Barnes Company.

CLASSIFIED ADVERTISEMENTS IN THE AUTOMOTIVE DAILY NEWS BRING RESULTS



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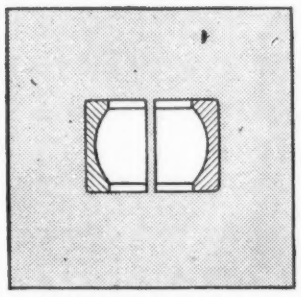
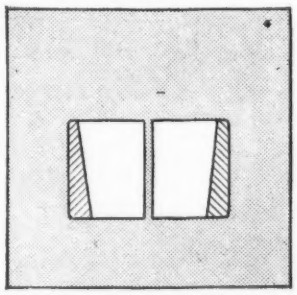
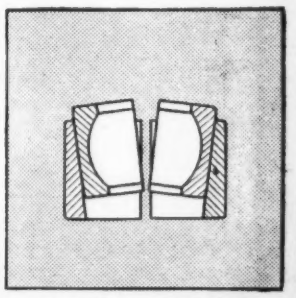
NEW



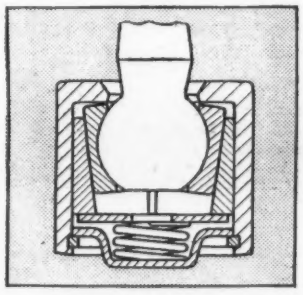
BALL SEATS: Hardened—cover 90% of the ball—never change position in relation to the ball. Seats are cylindrical, not tapered, and are interchangeable.



WEDGES: Hardened—circular—straight on the outside—tapered on the inside. Outside diameter to fit bore of the socket—are interchangeable.



SEATS AND WEDGES ASSEMBLED: The cylindrical ball seats are tilted and fit the taper of the inside of the wedges.



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